



Raising Cane

Linkages, Organizations and Negotiations
in Malang's Sugar Industry, East Java

Aard J. Hartveld

Stellingen

1. In developing adequate models for economic behaviour social scientists almost by definition have to practice reductionism. Sound ethnographic fieldwork and data processing are prerequisites for developing categories of social actors that allow a reduction of the data, without doing violence to the diversity of interpretations and strategies among actors involved in these problems on a daily basis (Chapter 2).
2. In general agronomic characteristics of sugarcane make it more suitable for large production units. However, the Indonesian price policies make the crop also attractive for smallholders in certain agro-ecological zones, where it decreases risks and increases the gross production value compared to food crops (Chapter 7).
3. Officials and politicians at the national, provincial and district levels, who justify their top-down models of rural intervention on the basis of highly simplified and idealized models of Javanese rural society, will soon find out that their models are ineffective as commoditization processes further erode traditional patron-client relations and redistributive mechanisms in rural societies (Chapter 11).
4. In most communities some local intellectuals, often retired teachers and religious scholars, are excellent observers of their society. These key informants and the researcher mutually benefit from the formers' active involvement in the research process. The informants gain new concepts and explanatory models with which to analyze their society, and the researchers obtain access to local explanations of events, conceptual models and normative systems (Appendix 1).
5. In farming system research teams the cooperation between physical and biological scientists on the one hand and social scientists on the other is often accompanied by tensions of a conceptual and normative nature. In contrast to the technical sciences, social sciences demand a holistic and interdisciplinary orientation of its practitioners. The physical and biological scientists often experience social scientists' analysis of the interfaces between local and scientific knowledge systems, and their involvement in setting priorities for technical research as interfering in their scientific domain (Part two).
6. Social scientists should be aware that in their selection of research topics and theories for explaining socioeconomic behaviour, they easily contribute to discourses which serve the interests of actors holding power positions at supra-local levels and which make invisible the social reality of less powerful ones (Part three).

7. Farmers in Indonesia and the Netherlands show a similarity in their patterns of interaction with cooperatives. Their interest in the cooperative's policy generally focusses on the price it pays for their products. Members become active when disputes arise between formal and informal leaders about policies of the institution that have financial consequences for them.
8. On the 50th anniversary of the independence of the Republic of Indonesia the Dutch government missed an opportunity to distance itself from judicial arguments used by conservative organizations to justify the Dutch military actions between 1945 and 1949. The presence of its head of state at the celebrations would have implied that the Dutch government admitted that the proclamation day (17-8-1945) rather than the date of the transfer of sovereignty (27-12-1949) was the birthday of the Republic of Indonesia.
9. On the basis of the arguments used during the Nurnberg War Tribunal, which were supported by the Dutch government, soldiers, who between 1945 and 1949 either refused to carry out orders that implied acts of violence against the Republic of Indonesia or who therefore deserted the Dutch Forces in Indonesia, should be rehabilitated.
10. People tend to visit places of pilgrimage to cope with insecurity in their daily lives. In Java there are many of such places, such as Gunung Kawi in the Malang district, which Javanese visit seeking success in business or to obtain an influential position. In Western society people visit such places to seek healing from bodily defects or success in procreation. Apparently people in the west experience greater insecurity in health and procreation while the Javanese have trouble obtaining wealth and power.

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Promotoren: dr N. Long,
hoogleraar in de rurale ontwikkelingssociologie
Landbouwwuniversiteit Wageningen
dr F. Hüsken,
hoogleraar in de culturele en sociale antropologie
Katholieke Universiteit Nijmegen

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Aard J. Hartveld

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In this study I have tried to develop a dynamic model for the agro-industrial linkages in a regionalized sugar industry. During the study I struggled with several dilemma's, a central one of which was that I neither wanted to contribute only to the discourse among actors at the supra-local levels on mechanisms with which to control the production and marketing of outgrowers' cane, nor to the discourse that is restricted to the impact of these mechanisms on people who earn their living at the bottom end of the integrated production system. I was interested in connecting these two domains and to explore the models which actors at the local and the supra-local levels used for the relationships in which they were involved. It became my conviction that the relationships were actually based on actors' models of them and that under specific contextual or socioeconomic conditions these led to disputes reflecting the contrasting views on cognitive and normative aspects of the relationships. I observed that local actors, who also had better understanding of the relationships, also had the better connections at the supra-local level and obtained the higher share of the added value from their cane. An actor-oriented approach enabled me to deal with economic behaviour, not only in connection with access to economic resources, but also in relation to knowledge, and the socio-political environment.

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1 INTRODUCTION

This is a study about socioeconomic linkages and organizational configurations in the Malang sugar industry of East Java. In this district, there are two sugar mills that each year, between June and November, crush cane that they obtain from outgrowers' cooperatives, traders and from their own estates. The institutional structure through which the cane producers and the sugar mills interact is under strict control of the Indonesian government, which adjusts the structure and the national policies after the annual review meetings after the crushing seasons. However, the police checking of the cane trailers that want to leave the Malang district, shows that not all conflicts of interest can be solved through negotiations within this organizational structure of the sector.

Commercial cane producers and traders want to sell their cane to publicly-owned mills outside the Malang district, because these give them a higher sugar yield and better transport subsidies for their cane than the Malang mills do. The Malang mills, on the other hand, want to prevent the export of cane grown in the district, for which they need local government support. The reason for this is that such exports threaten the mill's production targets, fixed for each crushing season. The linkages between the outgrowers and the mills in the Malang district, therefore, are not based on free-market mechanisms. Rather, the local government has imposed cane trading restrictions which have to be enforced by the police, as is shown by the checkpoints. As linkages in the sugar industry are the focus of this study, I will first deal with the concept, which will enable me to clarify some particular characteristics of Malang's sugar industry.

'Linkage' is a central concept in economic development studies. Hoselitz (1963) proposed that not the income side, but the production side of an economy has a determining influence on economic growth. He saw entrepreneurs as a crucial category of economic actors and consequently was interested in the conditions under which entrepreneurship develops. In line with this idea Hirschman (1981) argued that private and public entrepreneurial decisions are less responsive to income effects than to special linkage effects in the product-line. Hirschman (1981:75) means with linkage effects: 'ongoing economic activities which push or invite operators to take up new economic activities'. With this broad definition of linkage Hirschman wants to cover both backward and forward linkages, related to respectively the input-supplying and the output-using relations, as well as more indirect forms, such as fiscal and consumption linkages.¹ Hirschman's basic linkages idea is that ongoing productive activities, because of their agronomical or technological characteristics, create demand for other products or services, and thereby push or invite operators or an entrepreneurial state to take up these new activities. In this Hirschman distinguishes between 'inside linkage' and 'outside linkage'. In the case of 'inside linkage', operators already involved in a product-line take up the new activity, while in 'outside linkage' outsiders or the state do so.

¹ Under fiscal linkages he includes taxes levied for investment in public productive facilities, and under consumption linkage the effective demand generated from incomes in the product-line (Hirschman 1981: 65-70).

Returning to Malang's sugar industry, I argue that internal linkages were much more common there than in Java's other sugar regions, where external linkages dominated. During the Cultivation System period (1830-1870)², when the colonial government introduced sugar production to the wet-land areas in Java, the Malang district largely was a frontier region.³ The colonial officials preferred colonial coffee production above sugarcane because of demographic and ecological conditions in the district.⁴ In other more densely populated *sawah* areas in Java, the colonial government introduced sugar production through 'outside linkages' both for cane and refined sugar production, as the technology involved in these economic activities was considered too advanced for the indigenous farmers. In the Malang region local entrepreneurs first cultivated cane, either for brown-sugar production or for disease-free planting material (inside linkage). They sold the brown sugar to brokers, and cultivated the cuttings under production contracts with mainly European and Chinese brokers, who sold them to the sugar mills in the low land areas. At the turn of the nineteenth century the colonial government allowed Chinese and European entrepreneurs to invest in sugar mills and issued concession areas for mill-managed cane production (outside linkage). Initially these mills depended largely on sugarcane produced by local cane growers in the dry-land areas, but they also imposed mill-managed cane production on the *sawah* areas in their concession areas.

Between 1925 and 1941 the colonial government forbade the mills to purchase outgrowers' cane any longer which forced the Malang mills to rely on cane they produced on irrigated land they rented from the agrarian communities in their hinterland. This restriction on trade was strongly criticized by the local patrons in the *tegal* areas since they lost economic opportunities in cane production and trade. Either they had to return to brown sugar production, shift to other crops, or lease their holdings to the mill. In short, a distinctive pattern of linkages, and the large number of local cane growers formed the characteristics of the sugar sector in the Malang district.

After independence (1945) these local cane growers limited the mills' option for the organization of cane production. Local economic and religious leaders in the *tegal* areas opposed the mill's involvement in cane production and refused to lease land. The mills, therefore, had to negotiate alternative linkages and institutional structures for their relations with the outgrowers' organizations and local government. From the early 1950s until 1975, the linkages in the Malang sugar sector were the national showpiece for outgrowers cane production. In that respect it differed from many of the other low-land sugar regions, where the mills continued to organize cane production on the peasants holdings until 1976.

² The Dutch colonial period is commonly divided into three periods: the VOC (Vereenigde Oost-Indische Company), the Cultivation System, and the liberal policies. During the Cultivation System period, the colonial government itself tried to organize the production of export crops, using the labour and land resources of the Javanese farmers (Geertz 1963).

³ In this study I have tried to use a minimal number of local concepts. However, the local concepts for especially the wet-land and less for the dry-land categories are so widely known that both the English and local concepts *sawah* and *tegal* are used. In this study the concept 'region' is used for the geographical unit of district, because it is the lowest level in the political administrative apparatus and actors in the sugar sector referred to it as a social-cultural unit.

⁴ For the history of the socioeconomic development of the Malang district I relied heavily on Elson's (1984) study of the peasant-sugar mill relations in the Pasuruan Regency. This regency covered three districts, one of which was Malang.

1.1 Agrarian and policy context

In studies of agrarian change in Indonesia there exists an interesting discontinuity in the explanatory frameworks used by social scientists. The attention of social scientists working during the colonial period, like Boeke (1953) and Furnivall (1939), was attracted by the apparent stagnation of economic change in the Javanese communities. This contrasted sharply with the sectors of the economy controlled by colonial capital, like the plantations, industrial and service sectors. To explain this discrepancy, they introduced concepts like 'dual economy' with a "traditional" and "modern" sector, 'dual society' and 'plural society'.⁵ These concepts enabled them to provide cultural explanations for the lack of development in what they termed the "traditional" sector of the economy.

Social scientists and historians, working on agrarian questions after Indonesian independence in 1945, criticized these explanations of the economic stagnation as un-historical. Geertz (1963) attempted to provide a historical and ecological explanation for the different patterns of colonial exploitation in the wet-land areas of Java and the dry-land areas of the Outer Islands. He argued that particular ecological, demographic and technological conditions limited the linkage options for commercial agro-industrial development. In the wet-land zones of Java these conditions enabled Chinese brokers and the colonial government to link their indirect forms of commercial sugarcane production with peasant subsistence production.⁶ In the dry-land areas of the Outer Islands waste land was abundant and farm labour was scarce, therefore the agro-industries had to bring in estate workers, encroach the land, and directly organize commercial agro-production (plantations).

In his study Geertz shows how the colonial state imposed its sugar production system on agrarian societies in the wet-land areas in Java. Foreigners, initially colonial officials and later Chinese and Western entrepreneurs, organized the production of cane on peasant land. They also operated the sugar mills and exported the sugar. Geertz focused his study on the nature of economic linkages between the sugar mills and the agrarian community. Initially, the colonial state obtained control over a fixed proportion of the peasants' wet-land and labour forces. Later, it arranged for the private sugar mills to cheaply rent the communities' land and labour resources. Using local institutions, the village head's authority and the communal land tenure system, the colonial state pressured the communities' members to provide and later lease a share of their land and labour resources to the mill for cane production, and to adjust their subsistence production systems to the changing land and labour needs of the mills. The mills further hired their non-permanent labour force for the production and processing of sugarcane from the peasant households on a seasonal basis. When the mills no longer needed them, these labourers returned to their subsistence paddy production.

Geertz contributed to the development of a new type of analysis of production systems in

⁵ The concepts "traditional" and "modern" are placed between quotes because they have cognitive and normative connotations which require caution. First, they cover a wide variety of phenomena, which have in common that they are not modern or not traditional. Second, the concepts are connected with a linear perception of development and associated with positive or negative values.

⁶ I use the adverb 'indirect' because farmers' land and community's labour were used for cane production, however under the management of an external actor. Since the farmers did not manage cane production we cannot speak of internal linkage or direct production. But this linkage form also differs from external linkage because backward linkages exist for the supply of land and labour resources.

which commercial and subsistence production were organized in different units, which were connected through land tenure and labour relations. Aside from its relevance for plantation systems, this type of analysis was also applicable to those industrial sectors where commercial and subsistence economies coexisted in one product-line⁷, such as mining systems and industrial putting-out systems, where labourers often continue to depend on their own or family's labour in the agrarian economies.

In the field of agrarian studies in Java a discontinuity exists between studies of agrarian change during the colonial and the independence period. Historians have concentrated their studies on the impact of the colonial plantation systems on agrarian societies. During the 1970s and 1980s social scientists have focused on changing production relations and government policies in the rice sector, concentrating on analyzing the impact of the "green revolution's" technological package and institutional setting on the agrarian economy in regions with typical rice economies. This focus is understandable, since rice is the staple food crop in Southeast Asia, and its supply and price on urban markets are a politically sensitive issue. Rice is also in an economic sense an important crop because large numbers of entrepreneurs, peasants, tenants and agricultural labourers in the densely populated and irrigated lowlands depend on it (Hüsken and White 1989:239-265). In these studies little attention has been paid to the impact of the "green revolution" policies on sugarcane production. The impression is created that peasant households have ceased to be connected with the sugarcane production system by refusing to rent their holdings to the mills any longer. Rice and sugarcane, however, have in many regions been planted in the same fields for more than a hundred years.

Studies of the sugar sector during the 1970s and 1980s have concentrated on the organizational changes since independence. In 1945 all political parties wanted to change the ownership structure of the foreign-owned mill and their pattern of linkages with agrarian communities in their concession areas. The Old Order government initially tried to protect the interests of landowners, cane workers and outgrowers in their relations with the mill, and supported outgrowers forms of cane production.⁸ For experiments with outgrowers cane production, the national government relied on regional initiatives of the actors including mill managers, farmers' leaders and local government officials. In 1958 the Old Order Regime nationalized the foreign-owned mills but then paid greater attention to the organizational structure at the national rather than at the village level. When the mill experienced cane shortages, the government did not hesitate to force the agrarian communities to lease their land or sell their cane to the now publicly-owned sugar mills.

For the New Order government the sugar sector was a test case of new organizational forms of agro-industrial development. Between 1965 and 1975 the New Order government continued the policies of the Old Order government, in which the majority of Javanese mills organized cane production themselves and only some mills relied on outgrowers cane. The

⁷ In this study I use Hirschman's concept of 'product-line' for all economic activities and transaction involved in the production and marketing of a commodity. Other authors used slightly different concepts for the same content like 'product-column' (Frenkel and Harrod 1995) and 'product-chain' (Johnston & Lawrence 1991).

⁸ For the post-independence Indonesian state, the year 1965 is an important point of division. In that year a communist coup was attempted. During the subsequent military reaction, the first President Ir. Soekarno was forced to hand over his responsibilities to General Soeharto. The military government that has been in charge ever since calls its administration the New Order government, which is to bring social stability and economic development. Through this name they wanted to contrast their government with that of Soekarno or the 'Old Order', which was defined as standing for political instability and economic chaos.

New Order government hoped to revive the sector through its macro-economic policies. This was indeed the case, although sugar production recovered only very slowly. After the production levels in the rice sector improved through "green revolution" intensification, the New Order government shifted its attention to agricultural policies for the sugar sector (1972-1975). In a few sugarcane regions outgrowers cultivated a substantial share of the cane and institutional structures were established through which the involved actors negotiated their economic transactions and coordinated their activities. However, the dominant organizational form continued to be mill managed production, which a World Bank study (1975) identified as one of the major causes of stagnation in the sector. Through a reorganization of the sector's organizational structure, the New Order government introduced an outgrowers model for all mills in Java, which White (1992:7) has called 'an institutionalized form of contract farming'. Local government agencies, sugar mills, banks, and official cooperatives were all involved in the introduction or intensification of outgrowers cane production, and with the supply of their cane to the mills. The New Order government also tried to resolve the tension between paddy and cane production in the old concession areas of the mills. Through its national price policies it made rice production more attractive in the irrigated wet-land areas, and cane production in the poorly irrigated wet-land and dry-land areas.

Between 1975 and 1984 the New Order government made large investments of public money in the rehabilitation of the Javanese sugar industry. When the reorganization in the sugar sector proved to have a positive impact on sugarcane production, the New Order government turned its attention to other old and new product-lines of commercial agro-industrial production. The large investments in cash crop production and processing were part of a national economic development strategy based on export promotion and import substitution. In these new product columns, which like the sugar sector were subject to heavy government regulation, a similar institutionalized form of contract farming is applied; the Nucleus Estate and Smallholders development model (*Perkebunan Inti Rakyat*). The model has the advantage that it involves the smallholders in the hinterland of the agro-industries and plantations in commercial agro-production. This study of the organizational structure and interactions in the agro-industrial linkages in the sugar sector therefore, has a wider policy relevance; it can show how this particular pattern of linkages functions in the sociopolitical environment of Java.

1.2 Aims of the study

The objective of this study is to make a contribution to bridging the gap between the historical studies of agrarian change in the colonial sugar production system on the one hand, and recent studies of agrarian change in the rice sector on the other hand. Peasant rice production and mill-managed cane production took place alternatively on the same *sawah* fields and were partly carried out by the same labour force. The recent studies of the rice sector have not paid attention to what has happened to those integrated agricultural production systems, and the linkages and pressures that held them together.

In the 1980s studies of the sugar branch have concentrated on changes in national sugar policies and the organizational structure of the branch (Brown 1984; Mubyarto 1979), while interrelations between these national policies and regulations and the initiatives of actors in the sugar regions has received little attention. Rather, these studies paid attention to tensions and conflicts in the sugar regions that were covered by the national news media. No analysis has yet been made of the impact of the national policies and regulations on the interaction, initiatives and strategies of the actors in the 'regionalized sugar production systems' into

which the sugar industry in Indonesia has developed.

Before explaining the specific aims of this study, I should first clarify the organizational context of the research. This study was carried out as a component of a larger research project on agrarian change in East Java.⁹ For the sake of the internal coherence of the research project, the different studies were done from a common theoretical and methodological perspective. All the studies were local-level ones concentrating on the impact of commercialization processes on the agrarian economy. These processes were then compared for villages with different physical and economic conditions. Some of the researchers selected their villages in districts with differing patterns of economic development. I decided to do local-level studies in three sugarcane producing villages in one district. This decision was based on a consideration of both regional studies and ecological conditions. In the following paragraphs I will briefly explain these considerations.

To study agrarian change in plantation systems, Long and Roberts (1984) advocate a middle-range regional analysis, using Hirschman's (1981:91-97) argument that the development of the regional economies is often dominated by one or two staple products; the technological characteristics and the related linkages of the product lines shape the regional economic structure. Long and Roberts argue that the socioeconomic identity of a region is based on its economic or occupational structure, and on a functional interrelation between settlement, administrative boundaries and notions of cultural heritage. Although all the above mentioned factors play a role in shaping a region's identity, Long and Roberts (1984:3-4) emphasize that this identity is shaped through conflicts and alliances, as different groups seek to enhance their material and political interests in the face of the existing resource distribution (Long and Roberts 1984:3-4).

Since 1976, the policy of the government has been to shift sugarcane production from the irrigated wet-land areas to the dry-land areas. Geertz (1963) has argued that the ecological conditions and the subsistence production systems have implications for the pattern of linkages. Pre-existing production systems have consequences for the introduction of commercial agro-production and for the linkages with the agro-industry. Farming system research is based on the same notion, namely that farmers have different economic strategies depending on ecological conditions and the resources they control. Their different economic activities or product-lines, comprising both on-farm and off-farm activities, together form a farming system. Any external interventions in these farming systems requires an adequate knowledge of the production systems of these farms and their sociopolitical environment, in order to predict whether the objectives of the interventions can be realized - e.g. agricultural growth and equity. Thus transforming the patterns of linkages in the *sawah* areas, and introducing sugarcane farming in the *tegal* areas would required a detailed knowledge of existing economic activities or farming systems, in order to appraise its development potentials.

Long and Roberts' plea for regional studies, together with Geertz's idea about ecological conditions provide the guidelines for this study. During the formulation of this study I considered two options for the organization of the research. One was to select a village with different ecological conditions in three sugar regions, the other to select three villages in

⁹ This larger research project was a component of the Plan of Operations for the third phase (1990-1994) of the cooperative project in the field of social sciences between Universitas Brawijaya and Rijksuniversiteit Leiden. The project ended earlier than planned in April 1992, and in Holzner (1995) the major findings of this research project have been published.

different agro-ecological zones of one sugar region.¹⁰ I decided on the last option on both theoretical and practical grounds. Comparing three villages in different regionalized sugar production systems would have shifted the attention from the comparison of agrarian economies to regionalized productions systems. Such a study would require detailed information of agrarian diversity in the mills' hinterland. Three village studies in one sugar region enabled me to analyze the diversity in the organization of cane production at the village level as well as the diversity in the patterns of linkage and interaction between actors at village level with these in the organizational structure of the regionalized sugar industry. Consequently the study got another focus, namely that of agrarian diversity in a regionalized sugar production system. I wanted to conduct the research in a district with a flourishing sugar sector. This was the case in the Malang district. Its long history of cane production by farmers, and the presence of a large category of local entrepreneurs made the region interesting for the kind of research I wanted to do.

To fill the gap between studies of national policies for the sugar product-line and village studies for the rice sector, three specific aims were formulated. The first was to analyze the development of the regionalized sugar production system in the Malang district during the post-colonial period. Special attention was to be paid to the interrelations between national policies and regional initiatives of actors in the branch. The second was to analyze the patterns of agrarian change in different ecological zones, caused by a regionalized sugar production system. The third aim was to analyze the pattern of linkages and interactions in a regionalized sugar production system, taking into consideration the objective, strategies and perceptions of the actors.

The last two aims implied a comparative analysis between three villages, located in different agro-ecological zones of the hinterland of the Malang district. I selected my three field research locations with the intention of dealing with diversity in physical, demographic, and social-cultural conditions in a regional setting. In Elson's historical study (1984:206) of the sugar sector in the Pasuruan Regency, two sociopolitical environments can be distinguished in the Malang district. Supporters of nationalist and communist organizations dominated the city of Malang and its surroundings, while the Islamic scholars and entrepreneurs were dominant in the hinterland of the sugar mill in Krebet. Following Elson (1984:214), I selected one village in the former concession areas of each of the two sugar mills still operating in the district. The third research location I selected in the limestone area of South Malang, where after 1945 the foreign-owned rubber estates disintegrated and since the 1960s local patrons have been involved in sugarcane cultivation.

In 1992 wet-land cane production was practised in the first and second villages, while dry-land cane production was practised in the first and third villages. A study of the development and the contemporary organization of sugarcane production in these villages would enable me to analyze the impact of ecological and sociopolitical conditions on processes of agrarian change in a regionalized sugar production system.

Having outlined the aims and framework of this research, I also want to clarify some aspects which are not covered in this study. In the study of the operational units of sugarcane

¹⁰ The concept of 'agro-ecological zones' combines two elements, namely that of agro-climatical zones (Oldemans 1975) and of variations in physical resources. The concept was introduced for farming systems research in up-land agriculture (Kepas 1985). Zones are marked by homogenous climatical and soil conditions that guarantee similar technical production potentials. For East Java six agro-ecological zones were used: high volcanic (> 1500m), medium volcanic (700-1500m), low volcanic (< 700m), alluvial (< 500m), limestone (< 500m) and grumusol (< 500m). At the regional level these zones were further sub-divided in sub-zones (Kepas 1985).

production, the focus was on inter-household relations rather than on intra-household relations. In differentiated agrarian societies these production units vary in scale and organization. The family-labour based production units are important in number but not in the cane area they control. The small- and medium-scale enterprises, including the operational production units of mill, are important for the cane area they control, and these units also provide the bulk of wage labour opportunities. Given the objectives of the study I decided to concentrate on the relations between actors from different households and to pay little attention to the interactions within the households.

In this study I also will not analyze the communicative interactions between the actors at the interfaces in the organizational structure of the regionalized sugar production system. The agro-industrial linkages consisted of parallel forms of organization. This study covers the patterns of interaction in the production system, but an analysis of the communicative interactions related to these interactions is impossible. Only in case of concrete conflicts or discontinuities in the linkages did I also cover the actors' perceptions of the conflicts, and of the form and content of the interaction. No explicit attention was paid to the content of the negotiations, which took place in the absence of outsiders. I focused on the economic, political and normative strategies used by the actors to solve or prevent conflicts, but it went beyond the scope of this study to deal with the interrelations between economic, cognitive and cultural changes.

1.3 Organization of the study

The structure of the thesis logically follows from the aims and the design of this study. The book has been divided in three parts which deal with different aspects of agro-industrial development in the sugar industry. I choose for this structure because I wanted to give a proper place to the three local level studies in one separate section, part two, of the thesis. The theoretical, historical and regional context of these village studies are presented in part one. The comparative analysis of the organization of sugarcane production in the three villages, and the interactions in the organizational structure of the regionalized sugar production systems are discussed in part three. The content of the different chapters is as follows.

In chapter two the central concepts and theoretical issues, which are relevant for this study, are presented. These issues are related to agro-industrial linkages, agrarian change in plantation systems, new institutional models for agro-industrial developments, and agrarian change in Javanese communities. It also covers the dynamics of social change in plantation systems and the arguments beyond an interactional analysis. This chapter ends with methodological implications of the proposed analysis.

The historical development of the Javanese sugar industry is the central topic of chapter Three. The colonial sugar production system was introduced during the Cultivation System period (1830-1870). For the successive political periods, the changes in the pattern of linkages and the organizational structure of the sugar industry are described. These changes are related to strategies of different categories of actors, who operated in or beyond the organizational structure of the sugar industry.

Chapter four introduces the regional context of the study. In this chapter I first give an overview of the geographic and economic development of the region. I then concentrate on the contemporary economic conditions there. The chapter further examines the specific historical development of the sugar sector in the Malang district.

In chapters five, six and seven the results are presented of the three local-level studies of

sugarcane farming in the Malang district. The three chapters have a similar structure in order to facilitate comparison. The chapters start with a description of the agro-ecological and historical context of cane production. In the next two sections the contemporary socioeconomic conditions and the organization of cane production in the villages are described. The chapters continue with the impact of that organization on the production techniques and the social relations of cane production, covering land tenure, labour, credit, and marketing relations. In the final sections the analysis shifts to the interactions between actors in the sugarcane production units. It focuses on their strategies to prevent or solve conflicts of interest.

Part three forms the core of this study. In this last section a comparative analysis of the three villages is combined with an interactional analysis of the actor's strategies in the organizational structure, including the official institutional structure, of the regionalized sugar production systems.

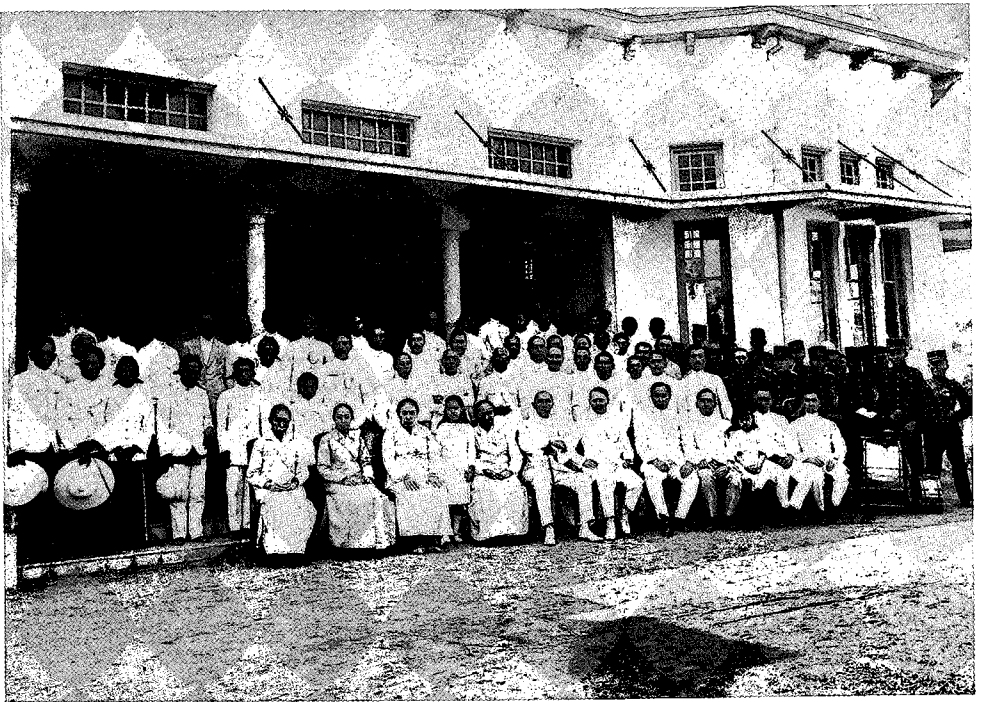
In chapter eight a comparative analysis is made of the impact that national regulations had on the organization of sugarcane production in the three villages. Through this comparison the impact of agro-ecological and sociopolitical conditions on the technology and organization of cane production will be analyzed. This chapter focuses on the production relations at village level, and ends with the nature of the linkages that different categories of cane growers have at supra-local level.

In chapter nine I analyze the strategies of the parties and categories of actors in the organizational structure of Malang's sugar industry. I focus on the formal institutional structure of the TRI programme, in which the sugar companies, the political-administrative apparatus and the semi-official outgrowers coordinated their activities and solve conflicts of interests in the regional sugar production systems. I also cover the parallel informal trading networks through which regional cane brokers intermediate between outgrowers and managers of the sugar mills in and outside the Malang district.

Chapter ten analyzes the political conditioning of the pattern of interaction in the regionalized sugar production system. I focus on the outgrowers complaints against the surplus extraction, and their individual and coordinated forms of protest against the responsible actors at supra-local level of the integrated sugar production system. The leaders in the regional political and juridical apparatus exchange political protection against financial spoils for different interest groups. However, when confrontations emerge between these interest groups and the apparatus's authority is at stake, the regional leaders close their ranks. They strictly enforce the official regulations by checking cane trucks at the district's boundary. They also condition the interactions between factions whose encounters endanger the vested interests of the strategic groups in the institutional configurations of the regionalized sugar production systems.

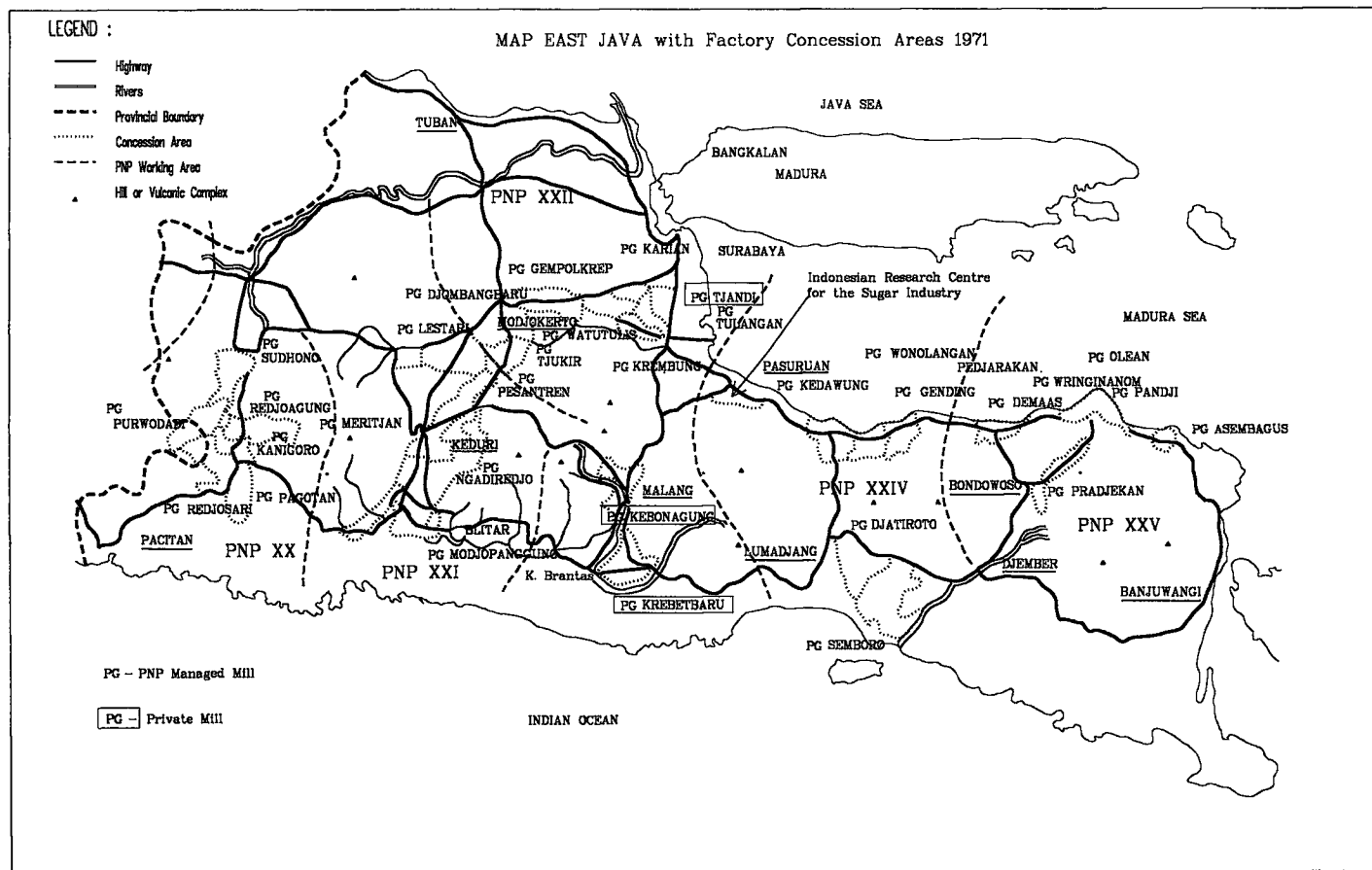
The study then concludes with a summary of the research findings that are related to the three aims of this study. Here I also reflect on the concepts, theories and research methods that were proposed in the first chapter.

**Part One THEORETICAL, HISTORICAL AND REGIONAL
CONTEXT OF THE STUDY**



Source Photo: Mr A.J.F. Gogelein, Leiden

Map 1 Concession areas of sugar mills in East Java (1971)



2 ANALYZING LINKAGES AND AGRARIAN CHANGE IN PLANTATION SYSTEMS AND SOCIETIES

A discussion of the theoretical and current issues in agrarian change, focusing on plantation systems in the Javanese context, can not forego a treatment of Geertz's study of plantation systems. His historical analysis has long been seen as an innovative approach for studying the interrelations or linkages between capitalist and pre-capitalist or peasant forms of production. Geertz used a functionalist framework to analyze the impact of the colonial government's and the sugar industry's policies on the Javanese communities in the mills' concession areas. The latter section of the study, in which Geertz developed his thesis of 'agricultural involution', has been criticized by historians and social scientists using structural/historical approaches. In this chapter I will argue that interactional analyses have more potential to study the linkages and relations between agribusiness and farmer communities in plantation systems.

Theoretical approaches to the study of agricultural development and agrarian problems represent the major paradigms or macro-orientations in socioeconomic studies.¹ The modernization approach embraces a wide range of system-analyses based on ideas of structural differentiation and decision making models, that have their origin in the structural-functionalist school (Long 1977). The structural-historical approaches have their roots in Marx's writing, and here too different schools of thought can be distinguished: the theories of structural dependence, of commoditization, and of articulation (Harriss 1982). Discussions between scientists of these two macro-orientations have become increasingly ideological and have lead to a kind of theoretical impasse.

In order to solve the impasse calls have been made from various sides for empirical studies based on sound research (Long 1992:20-22). Some social scientists have tried to bring the social actors back into their structural analyses. The complexity of the relation between external and internal factors in agrarian change has lead to attempts to develop new-style middle-range analyses. In the field of political science, multi-level analyses are advocated to deal with issues of decentralization and the relative autonomy of actors in multi-level structures. In development studies both anthropologists and sociologists have argued for combining village ethnography with structural-historical studies or for combining interpretive with political-economic research in order to overcome the weaknesses of the separate approaches.

It is within this theoretical and methodological context that this study has to be placed; I analyze the sugar industry in one district in East Java by combining a macro-historical review of the sector and a meso-review of one particular sugar region, with a micro-level analysis of the contemporary organization. The micro-level analysis will be used to analyze the organization and social relations of cane production, and to do a network/actor-oriented

¹ I refer to Long (1977) and Harriss (1982:15-30) for a discussion of these macro-approaches and the different schools of thought within them in relation to agrarian change. Long and Harriss present Geertz's analysis (1963) as a notable example of the 'systems' approaches, in which social actions are linked to their systemic relationship with environmental, technical and demographic conditions.

analysis of the interaction between actors at various levels of the regionalized sugar production system in the Malang district.

In this chapter I first pay attention to general discussions of agro-industrial linkages in commercial crop production and agrarian change in plantation systems. I then continue with institutions and actors in agro-industrial linkages, followed in the penultimate section by a look at agrarian change in the Javanese community. After these theoretical reviews I spell out the analytical framework and the conceptual apparatus which I will use in this study. I will end the chapter with a discussion of major methodological implications of the proposed type of analysis.

2.1 Agro-industrial Linkages

Analyzing agrarian change, and in some cases even the absence of agrarian change, has attracted the attention of social scientists working in Southeast Asia. These scientists have tried to develop concepts and theories to deal with economic development and social change in the diversity of cultures, social structures, and the economic and political history of Southeast Asia.²

One of the earliest of these was Boeke (1953:3-5), who introduced the concepts 'dual society' and 'dual economy' in his analysis of the colonial economy of Indonesia.³ The expansion of the estate-agriculture and mining economy in Indonesia led to a quick increase in the gross national product. These benefits did not spread to the peasants, however, and as a result the lower strata became impoverished while the upper strata westernized, urbanized and became wealthy. Even government interventions which aimed at increasing the welfare of the lower strata did not succeed in bridging the gap in what Boeke called the 'dual community': the wealthy 'Western society' and the underdeveloped 'Eastern society'.

Capitalism only offered new products and did not provide any new sources of labor. From a social point of view its effect was destructive rather than constructive. Instead of enriching the pattern of oriental society it made forms of social activities superfluous....The development of the West meant the retrenchment and diminishing differentiation of the East (Boeke 1953: 172-173).

Boeke tried to explain the lack of economic transformations among the eastern peasantry, as resulting from their failure to react to capitalist economic principles, because social rather than individual economic needs were thought to be dominant in eastern communities. Elsewhere Boeke argued for a twofold or even threefold theory; one for the western sector, one for the eastern sector, and one for the phenomena which appear as a result of contact between the two (Boeke 1947: 801).

Likewise, Furnivall developed the model of 'plural societies' from a critical review of

² For this section I relied on H.B. Evers's (1980) history of sociology in South East Asia.

³ Under 'dual societies' Boeke categorized societies which showed a cleavage of two synchronous and mature social systems and social styles, which were clearly distinct from each other and which each dominated a part of the society. Each social system had its own economic system (capitalist and pre-capitalist) and the socioeconomic interactions between these two economic systems within the borders of one society lead to what Boeke called the 'dual economy'; the theories discussing this phenomenon were termed 'dualistic economics' (Boeke 1953: 3-4).

Boeke's 'dual society' theory and a historical study of the contacts of Hindu Java with Chinese, Moslem and European merchants.

Netherlands India as an example of a plural society; a society, that is, comprising two or more elements or social orders which live side by side, yet without mingling, in one political unit (Furnivall 1939: 446).

In Southeast Asia Furnivall's model was applicable to a large number of societies. Natives, Chinese and Europeans had distinct economic functions and lived apart as separate social orders. The ruled and the rulers were of different races, and met almost only in the material and economic sphere (Furnivall 1939:239). Furnivall observed that plural societies tended to be organized for production rather than for social life; capitalist principles thereby became the norm for social conduct in the contacts between the different sections of the plural society. In Furnivall's opinion, cultural and moral standards of the distinctive social orders lose their sharpness and become uncertain (Furnivall 1939:459).

In contrast to Boeke and Furnivall, Van der Kolff and Geertz developed a historical explanation for stagnation in the Javanese rural economy.⁴ Van der Kolff (1929:123-124) argued that the colonial government's backing of foreign planters resulted in their political and economic domination over Javanese farmers. For the latter this backing prevented the development of their ingeniousness and entrepreneurship as motor of the indigenous rural economy. Later Van der Kolff (1953:195) argued that a class of well-to-do farmers 'with its sense of balance and its sound conservatism, tends to counteract the revolutionary theories of demagogues and to promote stable conditions'.

Likewise, Geertz (1963) observed two different patterns of colonial exploitation in Java and the Outer Islands. The colonial government forced the Javanese rice farmers to devote some of their land holdings to cash crop production (sugarcane in the low-lands and coffee in the up-lands).⁵ In the Outer Islands farmers practised slash-and-burn agriculture, which made it impossible to establish a system of indirect cash crop production by peasant households.

Geertz uses an eco-system approach⁶ to explain these different patterns of colonial exploitation. The existing eco-system, the pre-existing production systems and the settlement patterns influence the way in which new agricultural activities (like cash crop production) could be linked to the existing production units. Geertz makes an in-depth analysis of the impact of the colonial linkages on agrarian change in the *sawah* zone. At this juncture I will concentrate on Geertz's views about the nature of the relations between the western, capitalist sugar mills and the indigenous subsistence communities. In section 1.4 I discuss his ideas

⁴ Boeke's theory has been criticized by various sides. Wertheim (1961) points out that he neglected the exploitative relations that existed between 'Eastern' and 'Western society' through land-, labor-, marketing- and credit relations. Alatas (1977) criticizes Boeke's cultural argument, which came close to what he called 'the myth of the lazy native'.

⁵ In the introduction of this book I explained the organizational arrangements for the colonial sugar sector in the irrigated areas. For coffee production these arrangements varied per region and were organized both by government plantations and smallholders (Geertz 1963:56; Palte 1989:45-47).

⁶ Geertz used the concept 'eco-system' for a biotic community of interrelated organisms together with their common habitat. He used the eco-system approach to analyze the interrelation between physical processes and sociocultural processes in which human activities are embedded (Geertz 1963:3).

about the impact of agro-industrial relations on village communities in the mills' hinterland.

Geertz (1963:80) observes that marginal labour productivity for rice production in the *sawah* eco-system did not decline sharply. This enabled the colonizers to penetrate the communities and their households to tap both their labour and their land for cash crop production without seriously disturbing the subsistence food production system.⁷ First, in the *sawah* eco-system the yields of both sugarcane and paddy rice production reacted positively to their integration in one cropping system. When water management systems were improved and expanded for sugarcane cultivation, this at the same time led to an expansion of wet-rice production by the communities, since water and labour are the two most important limiting factors in rice agriculture. Expanded rice production made possible the allocation of larger amounts of land and labour to sugarcane and sugar production. Important pre-conditions to preserve this mutualistic relationship were the matching of the area for wet-rice and sugarcane production with population growth, and the prevention of a shift among Javanese peasants from subsistence rice to commercial sugarcane production.

The workability of the whole mutualistic relationship depends, in short, on each side "doing its job"- the subsistence side feeding the labour force, and the commercial side producing state revenues (Geertz 1963:58).

Geertz argues that the peasant households were obliged in their spare time to finance the colonial state and to launch the 'take-off'⁸ of the capitalist, foreign owned estate sector.

In contrast to Geertz, Hirschman (1981) discusses linkages on a theoretical level from a development economic perspective. He argues that in agriculture the linkage effects are smaller than in the industrial sector for two reasons. First, the relation between the size of the market and the economic scale of the enterprise (i.e. fertilizers and tractors) cause that only large private or public entrepreneurship to be able to take advantage of these opportunities. Second, the staple growers' unfamiliarity with the agro-industry's technology cause them to be unable to take advantage of the new economic opportunities.

This perspective enables us to place the arguments by Boeke and Furnivall in another framework. The colonial government decided on a strategy of 'external linkages', because of the unfamiliarity of Javanese farmers with the technology and administration necessary for the processing of sugarcane into refined sugar.⁹ Indigenous peasants provided the land and labour, while Chinese and Europeans technicians and administrators managed the sugarcane estates and operated the refineries.

Hirschman argues that a generalized linkage approach looks behind the general characteristics of the primary products (i.e. rice, sugar or coffee) that are produced in a

⁷ Hirschman (1981:78) relates these phenomena to the characteristics of paddy farming, in which the marginal productivity of labour declines only very slowly. Javanese rice farmers clung to their lands in the expectation that extra tending of the crop would increase yields sufficiently to feed a growing family. As a consequence, new opportunities for trade and other rural services, which became invitations to spatial mobility, were appropriated by Chinese entrepreneurs.

⁸ Geertz used the "take-off" concept from Rostow (1960), but criticized Rostow's analysis for ignoring the developmental patterns of colonial economies. Gordon (1992:498) points out that Rostow's "Stage of economic growth" most likely provided Geertz with the idea of a linear pattern of economic development or 'evolution', from which he developed the concept of 'involution'.

⁹ For more detailed information about sugarcane production technology, I refer the reader to Appendix 1.

nation or a region to understand the economic development experienced by that nation or region. From a developmentalist perspective, this approach looks to technical and economic information about the number and type of linkages provided by a new product-line (e.g. requirements for transportation facilities, labour and settlement patterns, new economic activities to supply inputs or process outputs), in combination with political decisions about the organizational form chosen for the investment in the new economic activities, to determine the development potentials of a product branch for a nation or region. Hirschman's linkage approach (1981:91-97) provides an alternative perspective from which to analyze plantation systems, which are commonly associated with regional underdevelopment and agrarian exploitation. I will focus on these issues in the next section.

The discussion about agro-industrial linkages can be summarized as follows: to explain the absence of agrarian change, a-historical and cultural explanations, like 'traditional' society, cannot be accepted. Rather, the historical establishment of linkages between the subsistence agriculture sector and the capitalist agro-industry has to be studied. The linkage approach takes the characteristic features of technology and production processes as a point of departure to understand social events on a small geographic scale and in a limited time perspective. Thus, the specific pattern of the economic development of a region or nation can be traced back to specific economic activities at a regional level, and at a national level when a few staple products dominate the national economy.

2.2 Agrarian Change in Plantation Systems

Plantations have been, and still are an important institution for agricultural cash crop production all over the world. However, a trend can be observed in the organizational forms of linkages for typical plantation cash crops, namely from 'plantations' towards 'plantation systems'.¹⁰ In this section I first deal with the complexity of physical and non-physical linkages in plantation systems. I then proceed to discuss changes in the sociopolitical and development-political forces beyond the plantation systems since the Second World war, that have caused changes in the organizational forms of the linkages.

Geertz's analysis of the historical development of the sugar industry in Java showed the particular pattern of capitalist expansion in agrarian communities of the sugar estate systems:

Unlike, say, in Puerto Rico, it [the sugar industry] did not forcibly marshal an embryonic peasantry onto enclave plantation and degrade it into a fully proletarianized, essentially landless labor force. The Javanese cane worker remained a peasant at the same time that he became a coolie, persisted as a community-oriented household farmer at the same time that he became an industrial wage laborer. He had one foot in the rice terrace and the other in the mill (Geertz 1963:89).

The sugar mills had to adapt to the pre-existing organization of production and the sociopolitical environment at the village level. More extensive, however, was the adaptation of the members of the village communities to the organizational requirements of the sugar

¹⁰ In this study Wolf's (1982:315) definition of 'plantation' is used: "A plantation is a capital-using unit employing a large labor force under close managerial supervision to produce a crop for sale". For 'plantation systems' Beckford's definition is used: "a totality of institutional arrangements surrounding the production and marketing of plantation crops" (1972:8).

mills. They had to adjust their farming practices, cropping patterns, labour organization and household economics to the mill's changing needs for land and labour. The plantation system was the "centauric social unit" (Geertz 1963:87). Its head was the mill, a heavily capitalized factory run by an European managerial staff, while its body was the peasantry in its concession area

upon whom the mill drew not just for land, but for the casual, seasonally extremely variable labor force it needed to clear fields, dig trenches, plant, harvest, carry cane to the mills, and perform countless other occasional tasks connected with the industry (Geertz 1963:87-88).

Likewise, Beckford (1972:3-29) analyzes the conditions under which plantations were established as settlement institutions, and the mechanisms of their operation. He searches for the 'underdevelopment bias' inherent in plantation systems and argues that the economic linkage effects of the plantation systems are extremely limited. Plantation systems are highly capital-intensive, capitalist enterprises, and the linkage effects associated with their staple lines are captured by international companies through their control over the vertical integration. These companies obtain their inputs from the industries and do the final processing and marketing of their output in the metropolitan countries. The actual operation of the plantation is of relatively minor importance to the company, in relation to their other economic activities in the vertical integration of the product line and/or other product lines. For the plantation systems, however, and for the economies and the sociopolitical environments in which they operate, the production of the staple is the dominant economic activity. Beckford argues that through the expansion of plantation systems in the frontier areas, they consolidated their dominance over the peasants through their control over land, labour, inputs, technical and management skills, and processing facilities. In combination with demographic growth and the general monetization of the economy, they marginalized the farmers by forcing them into casual wage labour, or the sale of cash crops to the plantations (Beckford 1972: 53-83, 183-214).

Bernstein and Pitt (1974) follow Beckford and Geertz in their analysis, but they criticize them for failing to analyze the combination and the relationship between the capitalist and pre-capitalist forms of production in plantation systems.

Plantations can employ a variety of relations of productions - capitalist (permanent wage labour force), quasi-capitalist (seasonal or temporary wage employment) and pre-capitalist or transitional (slavery, sharecropping and other tenancy arrangements, independent peasant commodity production) (Bernstein and Pitt 1974:519).

Bernstein and Pitt provide an economic explanation for Geertz's peasants' 'two legs'. The mill drew on the peasants' labour when they needed it, but by keeping the peasant's family farm intact, the estate passed a large share of the reproduction costs and the responsibility for subsistence security to the peasant farm and the peasant community (Bernstein and Pitt 1974:514-526).

Gordon (1979), who studied the state role in the relationships between the pre-capitalist village economy and the capitalist sugar mills/plantations in Java, concludes that the plantation system could only operate with the permanent backing and participation of the state. The administrative and coercive apparatus of the colonial state created conditions for capital accumulation in the capitalist mills and through its administrative and legal system,

the state exercised political force at local level. Cheap land was provided through the implementation of the colonial Agrarian Law and the state's enforcement of favourable leasing arrangements for the mills. Cheap labour was obtained through migrant labour, single person wages, and where possible through the use of seasonal labour, for which the state created a cheap and obedient labour force.¹¹

Like Beckford, Hirschman (1981) argues that the absence of physical (backward and forward) linkages in plantations earmarks them as 'enclaves'. But in contrast to Beckford, who ignores the political and economic relations of plantations at regional and national level, Hirschman argues that it is precisely the absence of local links that make them, as enclaves, into comparatively easy targets for the regional and national fiscal authorities (Hirschman 1981:67). The combination of levying taxes and the ability to invest public funds productively make fiscal linkages into an effective mechanism for economic growth. The extraction of taxes from foreign companies can be easier than assessing the owners of national enterprises, who beside owning the resources, also run the government. These national companies, furthermore, can easily undermine taxation. They can use their accumulated capital in various ways, which can cause linkage effects (i.e. productive investment or consumption linkages) but it can also cause leakages, such as consumption abroad. Hirschman (1981:68-70) argues that to analyze the plantations' development potentials not only its physical linkages (e.g. land and labour relations) have to be considered, but also the complex fiscal and consumption linkages and the political and economic strategies of the plantation owners at the regional and national levels.

These two critiques illustrate the complexity of physical and non-physical linkages in plantation systems. Bernstein and Pitt (1974) point to the interrelation of commoditized and non-commoditized elements in the backward and forward linkages between the production units in the agricultural and industrial sectors. Hirschman (1981) shows the importance of the fiscal and consumption linkages in the analysis, and in contrast to Gordon (1979) argues that the political structures at the supra-local level not only provide the administrative and legal backing of the plantations, they also influence the division of the added-value between the private and public sector and the utilization of the taxes. These two critiques show the necessity of more quantitative economic research and at the same time how the economic and political actors' strategies influence the relationships and transactions at these linkages.

At a more general level Kemp and Little (1987:4) discuss the trends and structural changes in plantation systems after decolonization. They point to four structural changes in plantation systems of which the first can be distinguished as the cause and the other three more as consequences. These four changes are: a) a changing configuration of political forces acting in and behind the plantation systems; b) major changes in the ownership structure that in some cases also affected the production structure; c) growing government intervention in order to control, regulate, encourage and orient activities in the plantation sectors, including marketing regulations, and d) greater integration of smallholders in the plantation systems

¹¹ Gordon (1979:176-180) also argues that the Javanese sugar system collapsed in the 1960s, when government officials could no longer create the conditions for capital accumulation by the mills. Peasants organized themselves in horizontally-oriented associations and the government could not ignore their protests against agro-industrial linkages that were strongly associated with the colonial government.

and the development of closer links between the plantations and the rural economy.¹²

Before the Second World War plantations were mostly owned by large multi-national corporations, which also controlled the trade and capitalist world market in plantation crops. Decolonization led to new economic and political structures in the third world nations, and to new international agencies such as the World Bank and the International Monetary Fund. The plantations had to deal with far more complex political relations as well as with influential trade unions and farmers' organizations. The controlling corporations have tended to concentrate on agribusiness and have withdrawn their investments from plantations. The ownership of these has been transferred to, and for newly founded ones, acquired by public agencies, joint ventures of public and private enterprises (using both national and international capital) or to national private enterprises. These new ownership structures and related management arrangements have had consequences for both the linkages and the organization and efficiency of production (Kemp and Little 1987:4-6).

The more dominant role of governments and international development agencies in plantation systems also had development political implications. The national planning agencies and the international financial agencies increased their influence in the plantation sector through macro-level policies, such as sectoral, macro-economic, financial and rural development, and through (co)ownership of the plantations. This has brought planning officials and government agencies into a position to influence the institutional structure and the distribution of the added value between the actors within the product chain.

There is an extensive literature in the field of development economics about the advantages and disadvantages of different types of agro-industrial linkages. The same is true of the impact of organizational forms and institutional arrangements for vertical integration in agricultural production systems. In the classical debates about paths of agrarian transitions, Chayanov (1966)¹³ paid attention to investment strategies of mercantile and industrial capitalists operating in the agricultural sector. In his opinion these capitalists were not interested in investing in capitalist farming, or what he call 'horizontal concentration'. Biological and technical conditions impose limits to horizontal concentration, and therefore capitalists preferred to invest in mechanization, trade, money lending, and processing and marketing of agricultural products, or in what he called 'vertical concentration'. Peasant farms are more productive than capitalist farms in, for example, intensive cultivation and livestock breeding. Chayanov argued that peasant farms can benefit from the advantages of scale through 'vertical integration' by forming cooperatives that perform those operations where economics of scale could be applied. In agriculture, these operations were not in primary agriculture, but rather in upstream and downstream activities.

Another contribution came from Lewis (1964), who wondered whether people in land settlement projects should settle in family farms or in large production units. Large plantations have economic advantages over family farms, but are disadvantageous as a social unit; large plantation systems have to be organized hierarchically which gives rise to conflicts and tensions between leaders and followers.

¹² Smallholder cash crop production already existed before plantations were founded. Thee (1977) showed for Indonesia that when prices on the markets deteriorated, the colonial state protected the foreign estate sector against competition from the smallholders sector in both rubber and sugar. The estates also purchased cash crops from smallholders when the markets made it attractive to do so.

¹³ For a discussion of Chayanov's theory of peasantry, which he wrote in 1923 but was translated in 1966 into English, I refer to Kerblay (1971), Shanin (1982), and Harrison (1982).

If the family size farm is to be economic, some central agency must organize on its behalf all those matters which are best done on a larger scale - mechanical operations, irrigation, pure seed farms, research, technical advice, processing the crop, marketing the crop, credit, purchasing supplies, and so on (Lewis 1964:304-305).

For Lewis, the organization of these forms of vertical integration might be done by private firms, by cooperative action, by a settlement agency or another government agency, using the economics of scale in operating these services.

As I showed in the introduction, Hirschman (1981:59-97) relates the issues of linkage potentials with the general characteristics of the staple. The characteristics of a crop, and the market conditions of the staple, determine the technology that has to be applied. Sugar yields decline when harvested cane is not crushed within 24 hours. Since cane furthermore is a bulky product, it cannot be transported over long distances, and therefore has to be processed near the growing area. National and especially international sugar markets put the sugar mills under pressure to innovate the refinery technology. The applied technology in the mills, such as capital, operation and management and marketing skills, tends to be unfamiliar to the local economic operators and as a consequence, foreigners, the state or national industries tend to take up this forward linkage activity. These characteristics of cane and sugar production provide a quite different linkage endowment than for example coffee or cocoa bean production.¹⁴

From this discussion of the analysis of agrarian change in plantation systems three important implications can be summarized. First, the interrelations of commoditized and non-commoditized elements in the physical linkages between the peasants' subsistence production unit and the agribusiness (Bernstein and Pitt 1974). Second, the complexity of the non-physical linkages of a product-line at national, regional, and local levels (Hirschman 1981). Third, the influence of the development-political (Chayanov 1966 and Lewis 1964), and sociopolitical environment (Gordon 1979 and Hirschman 1981) on the organizational forms which the agro-industrial linkage takes, the administrative and legal backing it provides, and the taxing and utilization of the public funds generated by a sector. Finally, the changed configurations of political forces in and beyond the plantation have caused major changes in the ownership and linkage structure of plantations, an increased role for government agencies, and the increased integration of the peasant sector (Kemp and Little 1987).

2.3 Linkages, Institutions, and Actors in 'Core-satellite Models'

The linkages, constituted by the organizational forms and the economic relations through which farmers' production units are integrated into larger systems of productions, vary widely. Long (1986:18-19) makes the following observation in relation to new institutional structures for plantation systems.

We increasingly encounter situations in which farmers form an integral part of

¹⁴ Coffee and cocoa trees need intensive tending, which encourages individual cultivators to become involved. The possibilities for forward linkages for both product lines are limited since the processing of coffee and cocoa beans is done abroad as a consequence of market positions, marketing skills, and national trade policies. Looking behind the general characteristics of a staple can say something about the constellations of linkage, and thereby the development potentials for a region or a nation.

operational units which stretch well beyond household or family groupings to take up horizontally or vertically integrated 'systems of production' based on farmers' cooperatives, state collectives, contract farming, or a network of formal economic institutions such as banks and private firms.

In this section I elaborate on linkages, their organizational forms, and actors in modern plantation systems organized after core-satellite models.

Goldsmith (1985:1126) makes a typology of agro-industrial linkages based on two dimensions; the intensity of the industry-farmers relationship, and the level of organizational integration of the production process. For the weaker relationships, in the upper left-hand cell, we find 'traditional' agriculture, in which the interaction takes place through markets and the distribution chains, controlled by networks of middlemen and small-scale processors. Large-scale processors are more important in the lower left-hand cell, relying on technical specialization and mass output in plantations. The plantations offer relatively few economic opportunities to the farming sector, other than employment for wage labourers. Stronger relationships are found in bulk purchasing, in the upper right-hand cell, where the processors buy large amounts from large farmers or traders. For these transactions they use marketing contracts which increase security for both of them. Increasing farmers' productivity requires access to credit, inputs, and technical advice, services typically provided by government agencies. In the core-satellite model of organization, in the right lower cell, the processors provide the farmers with both an assured market outlet and critical productive resources.

Table 2.1 Typology of agro-industrial linkages for smallholders

Level of integration	Intensity industry-farmers relationship	
	Weaker	Stronger
Less integrated	Traditional: small traders purchase and distribute crops	Bulk purchasing: firm buys what it needs through marketing contracts on the open market
More integrated	Plantation: firm produces its own raw materials and uses hired labour	Core-satellite: firm uses production contracts with small farmers.

In the development of agro-industrial linkages Goldsmith (1985: 1125-35) observes a trend that core-satellite models are used for a range of new crops, especially horticultural products.¹⁵ He argues that the core-satellite model can promote small farmers commodity production when specific economic, technical and social conditions prevail. First, there has to be an effective demand for the commodity in either the export or domestic markets. Second, there are technical characteristics that make some crops more suitable for contract farming than others. These characteristics are related to the need for quick, smooth and

¹⁵ Goldsmith gives a similar explanation as advocates of the model: "Despite the pressures for deemphasizing primary production, however, agribusiness companies still find compelling reasons to remain integrated to the field level [primary production]. They need assured and regular inflows of supplies to operate their processing facilities efficiently, and they often require the commodities they process to satisfy certain quality standards" (Goldsmith 1985:1127).

extensive processing of the crop, and its bulkiness and permanence.¹⁶ Third, the agro-ecological and socioeconomic conditions in the local environment such as accessibility, farmers' willingness and capacity to grow the crop with the required quality, and the competitiveness of the crop. And finally the government policies that encourage core-satellite projects where they are feasible and try to minimize undesirable side-effects.

Turning to the mechanism of linkage Goldsmith (1985) argues that in the vertically integrated production systems the market is replaced by contractual agreements. These formal and extensive contracts promote a more stable technical and administrative relationship, and a division of the risks between processors and growers. Wilson (1986) distinguishes three types of contracts: marketing contracts, production contracts and vertical integration. 'Marketing contracts' only stipulate the kind, quality, amount and price of the farm products that have to be delivered to and accepted by the core-firm. The core-firm does not involve itself in the supply of inputs or in decisions about the production technology. With 'production contracts' the core-firm and the farmers not only agree on the marketing of the product, but the production technology is specified, and the inputs and extension services are supplied by the core-firm. With 'vertical integration' all production steps are carried out by the core-firm, which owns the raw material, the means of production, and the product: the farmer only manages and implements the production operations. In this scheme the farmer becomes the equivalent of a hired manager or supervisor, or simply a piece-rate worker (Wilson 1986:50-51).

The core-satellite model encompasses different organizational forms of agro-industrial linkage such as outgrowers schemes, the Nucleus-Estate and Smallholders development or NES schemes, and multipartite arrangements. Glover and Kusterer (1991) argue that these terms have connotations in the literature: 'contract farming' is associated with private sector enterprises; 'outgrowers scheme' with public or joint venture (public-private) enterprises. NES schemes are a variation on the former in which the core enterprise administers in a plantation adjacent to the processing plant.¹⁷ Contract purchases supplement plantation production, or plantation production compensates for fluctuations in the product supplied by outgrowers. The term 'multipartite arrangements' is used to emphasize the participation in these schemes of various national and international actors like private firms, government agencies and development agencies, such as development banks, advisory services, aid- and lending agencies (Glover and Kusterer 1991:5).

Beside these more formal organizational arrangements between farmers, processors and development agencies, Treville (1986:17-18) points to the existence of indigenous contracting

¹⁶ Morrissy (1974) makes similar observations concerning the specific crop or livestock requirements that make contract farming attractive. He observes that contractual arrangements are most extensive among international frozen vegetable producers and concludes that contracts are most useful when quality, variety, or delivery to the processing/marketing plant within hours of harvest are critical. Roy (1972), the authority on contract farming in the United States agriculture, argues that the greater the frequency of processing, and the tighter the quality requirements, the more likely it is that agricultural production is contracted rather than bought on open markets. Stubbings (1972) notes that outgrowers' schemes are particularly suitable for crops that must be processed quickly and require capital outlays beyond the means of outgrowers.

¹⁷ In Indonesia the terms 'outgrowers' and 'smallholders' are commonly used as synonyms. The concept 'smallholder' is mystifying in this context because it suggests the absence of differentiation processes. Especially for typical estate crops like sugarcane, scale advantages are large and therefore also lead to large variations in organizational forms and labour relations. In this study the concept 'outgrowers' is used because it is neutral concerning the organization and labour relations.

arrangements in Asia by mainly Chinese merchants. They also link small subsistence oriented farmers to input and credit as well as to markets. She argues that different organizational forms of linkage might exist alongside each other.

In the theoretical discussions about the core-satellite model for smallholder cash crop production, different opinions exist between two macro-orientations of socioeconomic studies: the modernization approach and the structural-historical approach. Glover (1984) contrasts the "Harvard Business School" (HBS) and the "Food First" approaches as respectively the supportive and critical schools in the contract farming literature.¹⁸ He argues that between these two extremes there are several authors who attempt to present a less ideological approach based on systematic fieldwork and related data analysis. They focus their attention on the potential advantages and disadvantages for smallholders (e.g. Kusterer 1982; Buch-Hansen and Marcussen 1982; Barlay 1972). The discussions between the different macro-orientations about contract-farming show many similarities with the disputes about agrarian change in general.

I selected four contributions discussing the technical and administrative aspects of the contract arrangements in the core-satellite models. Benvenuti (1975) and Van der Ploeg (1986) concentrate on its technical facets, while Glover (1984) and White (1992) highlight its marketing aspects. Benvenuti emphasizes the interactions between the core and satellite through technical and administrative regulations, while Van der Ploeg (1986) pays attention to the impact of agro-industrial linkages on the farming systems and farming styles of the outgrowers. In the discussion of the marketing relations, Glover pays attention to the impact that political processes have on them, and White adds to these the institutional aspects of the agro-industrial linkages. In the following paragraphs I will elaborate on these matters in order to get a better insight in the coordination mechanisms at the linkages.

Benvenuti (1975) argues that in agro-industrial linkages the 'free' markets in agricultural products have in practice been strongly regulated. Commercial companies' planning activities regulate the supply of raw materials through a variety of production and/or marketing contracts, often in coordination with government agencies, which intervene in markets through their market and price regulations. These companies further operate in a context where farmers, rural artisans and other actors perform a spectrum of specialized professional roles that constitute the TATE, or Technological-Administrative Task Environment of the farm enterprise. This TATE produces a set of technological and administrative regulations that contribute to the spread of standardization of production practices. It further contributes to a homogenization of the farm practices, as a result of a strategy of maximizing the economic utility of the farming activity.

Van der Ploeg (1986:34) deals with the impact of the scientification of agricultural production on the farming styles. He argues that the scientification has led to the externalization of tasks from the farm labour process. "An increasing number of tasks are separated from the farm labour process and reallocated to external agencies." This leads to a declining autonomy of the farms, not only regarding production activities but also in terms of the reproduction of the farms (i.e. soil fertility, planting materials). Farmers increasingly rely on market relations, and variations in level of autonomy from these markets lead to

¹⁸ The HBS approach advocates contract farming and looks to it in terms of the problems it poses to agribusiness. This approach tends to neglect questions of growers' welfare and the political and economic aspects of the outgrowers-firm relations (e.g. Goldberg 1974; Williams and Karen 1985; Morrissy 1974). The Food First approach is highly critical of agribusiness and specifically pays attention to questions about the growers welfare and the political and economic aspects of contract farming (e.g. Feder 1977, George 1977, Collins and Lappen 1977).

different farming styles. These farming styles are related to different management strategies for resources, and the relation between the farmers' capacity for 'entrepreneurship' and 'craftsmanship'.¹⁹ Where the entrepreneurs aim for optimum levels of 'economic efficiency', the craftsmen aim for optimum 'technical efficiency'.²⁰ The use of agricultural sciences leads in the final instance to 'production regimes' that unite farms and agribusiness in specific ways.²¹ Capital tries to prescribe the farming technology, but Van der Ploeg argues that farmers struggle against this attempt, not only through the market and institutional structures with the agribusiness but also through their farming styles.

Glover (1984) is particularly interested in these market and institutional arrangements of the agro-industrial linkage in contract farming. He argues that to assess the developmental potentials of contract farming systems, studies should include an analysis of the economic logic of contract farming and an analysis of its political aspects. By the economic logic Glover means exploring the economic motives of both the agribusiness and the outgrowers: "Why do they choose for contract farming rather than free market relations?" For the political aspects Glover wants to explore the political motives of firms for dealing with government agencies and outgrowers, and the effect that contract farming and politics have on the organization of outgrowers. The Food First approach usually presents the distribution of benefits between agribusiness and outgrowers as a zero-sum question, which implies that in the negotiations the gains of one party automatically leads to losses for its opponent. Glover argues that both political and economic factors are of central importance in negotiations about the distribution of the benefits between the actors involved (Glover 1984:1144). Glover points to a wide range of pricing formulas that are used in the agro-industrial linkages. These pricing formulas, and the related mechanisms that influence prices, need to be investigated through empirical research. In virtually all product-chains, growers complain about variable quality standards, weighing procedures and the assignment of planting or delivery dates. Glover (1984:1154) warns that it is difficult to come to a judgement about the accuracy of these complaints.

Hirschman points in this context to price stabilization as a public good provided by the government, which the parties are incapable to supply themselves.²² The institutional

¹⁹ Under 'entrepreneurship' Van der Ploeg understands the farmers' capacity to tune the process of production to the types of commodity relations penetrating it. Under 'craftsmanship' he understands their capacity to develop the productive potentials of the object of their labour. The effective control over the means of production, their interaction and an effective share of the returns by producers are conditions under which 'craftsmanship' can prevail (Van der Ploeg 1986:45).

²⁰ 'Technical efficiency' is related to autonomous reproduction, where progress is achieved through slow increases in the given factors of production and inputs on the one hand, and the realized production on the other hand. In market-dependent reproduction, the markets make the quantity of production factors (such as labour, agricultural input etc.) flexible, and production is organized so as to valorize these initial production costs in order to obtain optimum levels of 'economic efficiency' (Van der Ploeg 1986:39).

²¹ In this study the concept 'regime' is used for hierarchically or vertically-structured organizations, which have economic objectives and which have additional political and ideological functions (see Burawoy 1985). A distinction is made between 'production regimes' and 'administrative regimes'; the first concentrate on the provision of private goods while the second focus on the provision of public goods and services.

²² Through exchange rate policy and marketing boards the state can separate the international price of a staple from its domestic one, and even manipulate the staple's international price if it holds some monopoly power in world markets (Hirschman 1981:82).

structures for the coordination of multipartite contractual arrangements and price stabilization schemes tie integrated production systems to political processes and administrative apparatuses at supra-local level.

White (1992) deals with interactional aspects of negotiations at the linkage between outgrowers, agribusiness, and government agencies. In a situation of monopoly or oligarchy in the marketing of inputs and the sales of output not the market forces but institutional factors set the prices at the various points in the production, processing and marketing chain. These prices and the mechanisms that influence them, such as quantity, quality and moment of delivery, are negotiated between interest groups and actors in the organizational structure of the specific product-line. White points to two aspects of that organizational structure, namely how the parties are organized internally and the power relations at the official institutional structure.

The core, the satellite, and the core-satellite relation can take different institutional forms. The core can be a private firm (national or foreign), a state enterprise, or a cooperative institution. There are national or international institutions where actors decide on market and price policies which affect the core-satellite relation at regional level. Also, outgrowers might be organized in associations, which they either initiate themselves, or were imposed on them from a supra-local level. For the coordination of economic activities between the core and the satellite, either bi- or tri-partite institutional structures might exist. In the institutional structure of the core-satellite model for a particular product-line, interest groups and actors, with particular objectives and strategies, bargain for regulations and policies that influence the division of "added value" between the core and the outgrowers.

White further shows that, whatever the institutional structure that is selected for the core-satellite relation in a particular product-line, its implementation takes place in a social-political environment in which actors (social-political predators) may exercise sufficient power to subvert and manipulate the system in their own interest and to the detriment of the smallholders (White 1992:13). Mackie and O'Malley (1988) made a similar observation when studying the decline in productivity in the sugar industry in Java. They analyze the effects on economic development of the perceptions and activities of 'distributional coalitions' within the industry, covering various categories of actors such as peasants, capitalist farmers, local officials, mill administrators, senior industry officials, and senior government planners. They concluded that the Indonesian political structure is:

an extremely bureaucratic form of authoritarian patrimonialism, highly unresponsive to pressure from below (Mackie and O'Malley 1988:746).

There were outstanding features that Mackie and O'Malley relate with the declining productivity in the sugar production systems. First, officials in the state and production regimes are preoccupied with production targets rather than with productive efficiency. And second, distributional coalitions, interlocked through vested interests, cooperate in making the outgrowers intensification programme work to serve their egocentric interests for supplementing their private incomes (Mackie and O'Malley 1988:747-748).

For the analysis of the complex agro-industrial linkages in a specific product-line a number of conclusions can be drawn. First, the combination of organizational forms and the relationships between operational units in the vertically integrated production systems have to be investigated. Second, increasingly contracts and institutional structures replace market forces in coordinating the economic and technical transactions between outgrowers and agro-industry in the integrated production systems. Third, the relationship between central

administrative and technical regulations and farmers' initiatives is a dynamic one in which farmers both through negotiations and farming styles struggle against the regulations. Four, the development of the institutional structure of a production regime, and the dynamics of the negotiations and pattern of strategic alliances between the interest groups in these institutions at the different administrative levels has to be analyzed. Before turning to the analytical implications of these conclusions I will first proceed with agrarian change in Javanese villages.

2.4 Agrarian Change in Javanese Society

Earlier I mentioned that Geertz's thesis of 'agricultural involution', in which he explains the causes of economic stagnation at the village level, has been criticized both by historians and social scientists. I will take these critiques on different aspects of Geertz' idea of 'agricultural involution' as a point of departure. Two of them deal with the diversity of agro-ecological conditions and of historically developed regionalized production systems in Java. Another critique is about Geertz' presentation of the agrarian structure of Javanese communities.

In his study Geertz (1963) analyzes the implications of the colonial rural development policies on Javanese agrarian communities in the *sawah* zone. One widespread criticism on this was that he failed to take into account the fundamental differences in the resource bases of the Javanese agrarian communities themselves: irrigated low lands, dry land, and up-lands. Further, he failed to identify the different production systems for commercial crops (i.e. rice, sugarcane, tea, coffee, rubber) that had developed in various regions in Java. This diversity in resource bases and regional agricultural developments also has implications for both local farming activities and the sociopolitical environment. In the following two paragraphs I will summarize some of the main features of farming systems in the *sawah* and *tegal* areas.

Studies of agrarian changes implemented in wet rice-growing communities during the late 1970s confirm some of the technological and ecological features identified by Geertz. Bray (1983), Hayami and Kikuchi (1982), and Palmer (1976) all studied the economic implications of intensified rice-farming as a consequence of the "green revolution". Commercialization of wet-rice farming does not lead to the development of capitalist production relations. Asian wet-land rice farming has the capacity to increase the productivity of land through the investment of additional manual labour rather than capital. Landlords gain little by evicting tenants and managing large rice estates using wage labourers. Hayami and Kikuchi (1982) relate the survival of peasant agriculture in rice farming to particular characteristics of rice culture (labour intensive and limited response to economics of scale) and of rice growing communities in the irrigated lowlands of Southeast Asia, characterized by a high degree of solidarity and a value system that emphasizes mutual help, the sharing of resources, and subsistence security.

Palte (1989:218) argues that the land resources of upland farming communities lack the "ecological elasticity" of the irrigated lowlands, since they miss the marginal labour productivity decline characteristic of irrigated rice.²³ Palte states that poverty sharing mechanisms, e.g. through tenancy arrangements, are practically negligible in the uplands.

²³ Palte uses the dichotomy irrigated and upland agriculture for Java. This classification is too broad for Javanese agriculture and farming systems, as it neither pays sufficient attention to the diversity of the physical and climatological conditions that influence the crops that can be grown, nor to the historically developed agricultural production systems.

Sutrisno (1985) argues that dry-land farmers have to deal much more with risks and isolation than do wet-land farmers. In dry-land agriculture the peasants spread their risks by practising "polyvalency" in on-farm activities, growing maize, cassava, dry-land rice and other annual crops on their fields, and perennial crops in the homestead along with animal husbandry. The same polyvalency pattern is found in their off-farm activities. The slack periods in food crop production, between planting and harvest (approximately from January to March and from May to July) are lean periods (*paceklik*) characterized by declining labour opportunities and increasing food prices. Isolation leads to limited access to both urban labour markets and formal credit opportunities. As a consequence, mixed farming, seasonal migration, and informal credit arrangements are widespread features in dry-land communities. These strategies enable the peasants to overcome the lean periods and to deal with risks caused by rain, food and cash shortages. After planting, men leave crop cultivation and animal husbandry to their family members and wives until harvest time and involve themselves in off and non-farm activities outside the village (*boro*). These off and non-farm activities have caused families to plant less risky and labour-intensive crops, such as cassava, sugarcane and tree crops.

The different resource bases of the *sawah* and *tegal* areas, have hence led to different farming systems as well as different social-political conditions, which in turn have implications for the introduction of new product-lines.

The other critique of Geertz concentrates on his presentation of the agrarian structure and the absence of agrarian differentiation in Javanese communities. Geertz introduces the cultural concept of 'shared poverty' to point to a kind of solidarity based on kin and other primordial ties²⁴ in Javanese communities. These caused the available resources to be equally shared among the members of the community:

Under the pressure of increasing numbers and limited resources Javanese village society did not bifurcate, as did so many other "underdeveloped" nations, into a group of large landlords and a group of oppressed near-serfs. Rather it maintained a comparatively high degree of social and economic homogeneity by dividing the economic pie into a steadily increasing number of minute pieces...(Geertz 1963:97).

These two phrases in Geertz' thesis of 'agricultural involution' in Javanese agrarian communities provoked sharp critiques from historians studying agrarian change during the colonial period.

White (1983) and Elson (1984) criticized Geertz for his assumption that the Javanese communities were egalitarian and homogeneous. White pointed to the existence of rigid stratification in pre-colonial Javanese village societies, based unambiguously on differential ownership of land and rights to communal land. On the basis of historical studies focusing on different regions on the eve of the Cultivation System, White points to the existence of three broad agrarian classes:

In the middle was a large mass of peasants (often called sikep or bumi) with rights to land and with heavy tribute and corvee obligations (right to land being the basis of all

²⁴ By primordial attachments Geertz means attachments that stem from the assumed givens of social existence. These cover immediate contiguity and kin connections and beyond that the givens that stem from being born in a particular religious community, speaking a particular language or following particular social or cultural practices (Geertz 1973:259-260).

forms of exaction at both village and supra-village level). Below them was a substantial group of landless households and individuals attached as dependents to landed peasant households (often called indung or numpang, "lodgers" or bujang, "bachelors" although not necessary unmarried). Above the sikep class was a group of village officials who in addition to their own landholdings had control of a large portion (often one-fifth) of village land plus rights to the unpaid labor of the sikeps to cultivate it, and to many other exactions - a privileged, non-cultivator class whose office was often in practice hereditary (White 1983:27).

Elson (1984) draws a similar conclusion on the basis of his in-depth historical study of the sugar industry in the Pasuruan Regency; little resembled the picture of egalitarian and non-commercialized communities. He observed shifts from subsistence to commodity production, and the monetarization of the village economy, processes the roots of which could be traced back to before the Dutch colonial period. With the introduction of the Cultivation System (1830-1870), commodity production expanded further into the irrigated low lands (rice and sugarcane) and into the uplands (tree crops like coffee) (Elson 1984:253-256).

For the contemporary situation Hüsken and White (1989) point to prominence of a skewed agrarian structure in Javanese rural communities. Large-scale statistical and village level data show that a small category of 10-20% of the rural households, who control 70-80% of all farmland, dominate the village economy.

These larger landholders dominate village-level power structures and have access to state patronage both in and outside agriculture; the combination of agrarian surplus and power enables them also to dominate the growing nonagricultural sector, which recent large-scale surveys suggest provides about half of all rural incomes.... The accumulation strategies of landed elites in this context, then, may involve not the further concentration of landed property but a combination of agricultural intensification and diversification into nonagricultural enterprise on the basis of relatively limited landownership (Hüsken and White 1989:258).

Likewise, Hirschman (1981:74) argues that in the absence of elaborated forward linkage industries the staple growers may become involved in the more accessible nonindustrial forwarding operations, such as transporting, commerce and finance.

With regard to the labour relations, Hüsken and White (1989) conclude that a pure agricultural proletariat was not formed. Like the wealthier farmers, small and marginal peasants became also involved in 'occupational multiplicity', but they had to find alternative sources of income in order to secure their subsistence or to replace the share tenancy contracts they lost.

If diversification is an accumulation strategy for rural elites, for the landless and those with 'sublivelihood' holdings it is a survival strategy to supplement inadequate own-farm or farm-wage incomes. In addition to diversification within the village economy there has been a rapid increase in temporary (seasonal or more commonly year-round circulatory) migration of household members to urban centers (Hüsken and White 1989:258).

Breman (1995) adds a third interconnected process of change in the agrarian economy to these presented by Hüsken and White. To the diversification of the rural economy and increased labour mobility he mentions the casualisation of employment. Permanent farmhands

are replaced by daily wage earners. Short-term labour contracts prevail, which employers increasingly base on piece rates and job work, rather than on time rates. In these labour relations employers use mechanisms of restriction and bonding, like advance payments. These practices of employers to obtain sufficient and cheap labour power Breman calls 'neobondage'.

Breman (1995:13) argues that the changes in the rural economy lead to an erosion of traditional social networks but not to interest-oriented associations of rural labourers.

Recruitment of labour on the basis of primordial loyalties in a situation of a surplus labour force preserves segmentation along lines of demarcation other than that of class.... Earlier care arrangements within the family or patron-client relations which redressed the sharply unequal social distribution at least to some extent have been eroded or have even completely disappeared without being replaced by more formal and horizontally-structured forms of social security (Breman 1995:13-14).

For land tenure arrangements the owners of large farms increasingly have shifted from share-tenancy contracts to wage-labour arrangements with landless and marginal peasants. In these arrangements the land owners use exclusionary practices such as *tebasan* and *kedokan*.²⁵

Both Hüsken (1989) and Sturgess and Wijaya (1979:88-90) demonstrate that land tenure relations are tied both to labour and credit relations. Hüsken (1989:311) shows on the one hand that share-cropping was and still is more than a contractual tenancy/labour relationship: it also includes elements of the asymmetrical and diffuse patron-client bonds and of personal dependency. Landlords can claim labour services without pay as well as political loyalty, and the share tenants can ask for interest-free loans when they have financial problems.

On the other hand Sturgess and Wijaya (1979:88-90) indicate that land lease contracts, which increasingly replace share-cropping arrangements, also function as borrowing-lending transactions for farmers. Fixed lease contracts make it possible for landowners to obtain credit on their land and crops. Sturgess and Wijaya show that especially peasants use these contracts to raise cash in case of urgent need. During the lean periods the lenders, often the landed elites or intermediaries of traders and cash crop producers from outside the village, cheaply obtain access to land and crops through loans. Sturgess and Wijaya observed lower rents, and therefore higher returns on dry-land farming compared to wet-land farming. They relate these differences to the absence of formal sources of credit and the higher risks involved in dry-land farming.²⁶

Thus, where the larger landholders are in a better position to explore the possibilities of formal sources of credit at the local and supra-local level, the labour and land tenancy arrangements function as informal borrowing-lending agreements for the landless and the smallholders. The changes in the land tenure and labour arrangements at the local level not only point to new relations but also to the erosion of the traditional social organizations. These observations point to changing social networks beyond the households in other than

²⁵ *Tebasan* is the sale of a standing crop to intermediaries before the harvest. The traders are further responsible for the tilling and harvest of the crop and bring their own teams of harvesters, who receive a cash wage instead of the traditional harvest share (*bawon*). *Kedokan* is a labour-tying arrangement, which requires the performance of unpaid pre-harvest labour to obtain the right to participate in the rice harvest and receive the traditional *bawon* wage. The *bawon* wage is a ratio (1/6 to 1/12) of the harvested rice.

²⁶ In the *tegal* areal crop failure due to drought is more common than in rice production on irrigated holdings.

the expected horizontally-structured forms of organization. In the following paragraphs I will discuss the groups, networks, and quasi-groups in the Javanese village communities.

Schweizer (1988:944) tries to detect the position of households within networks that form the social structure of Javanese agrarian communities. He argues that economic cooperation among neighbours and kin is limited to activities in the ritual sphere and that market mechanisms and personal economic advantage prevail in the commercial sphere.

Households are built upon nuclear or stem families that form the main units of economic, social, and emotional support and of decision making.... Beyond the household, parents and (adult) children support each other economically and socially.... At the hamlet level, households are integrated into neighborhoods, where a good deal of information-sharing and social support takes place. Economic cooperation among neighbors and extended kin, however, nowadays is mainly confined to the ritual sphere, the financing and celebration of communal feasts; whereas in the economic sphere of rice production and trade strictly commercial mode of interaction prevails (Schweizer 1988:945).²⁷

Like White (1983), Schweizer distinguishes three socioeconomic classes: landless labourers, small-scale farmers, and the elite segment, including village officials, large-scale farmers, and wealthy traders.²⁸ The households further adhere to different sects of Islam (syncretise, conservative and reformist), which they express through visits to prayer-houses and through participation in small weekly prayer meetings.

On basis of these forms of organization, Schweizer had the impression of a loose social structure in Javanese rural society:

Class differences are offset by kinship bonds, while neighborhood cooperation and ritual activities connect people of different economic standing and religious persuasion. Furthermore, ties of economy, kinship, neighborhood and religion overlap only to a certain degree, enmeshing individuals into loosely bound higher-order subsets that are difficult to conceptualize (Schweizer 1988:945).

Schweizer particularly excepts the elite segment of the society, which displays a tighter structure through intermarriage and inheritance of jobs and land resources, among others, and confirms the existence of village oligarchies.

In summary, different agro-ecological and sociopolitical conditions have led to different incorporation patterns of Javanese villages into integrated cash crop production systems. The

²⁷ By 'a commercial mode of interaction' Schweizer means a pattern of interaction in the village economic sphere, steered by market mechanisms and an individualistic mentality, focused on economic advantage. Schweizer contrasts this mode of interaction with that of the village ritual sphere, including personal and social crises, and community work like house building and road construction, where calculated reciprocity (help me and I'll help you), and altruistic transfers (the rich give more) still prevail, and where the community spirit is fostered at a normative level. According to Schweizer these two modes of orientation and interaction form the basis for the paradoxical and conflicting evaluations of Javanese society. "Market exchange and economic individualism in the income-producing sphere are linked with community spirit and actions for the common good in the ritual sphere" (Schweizer 1989:304-305).

²⁸ Central in the composition of the elite segment is that village officials are gate keepers for public goods and funds (f.e. public credit funds) and that they receive the usufruct of community land as salary. By trying to have close kin elected as successors they try to keep the usufruct rights in the kin group.

perception of egalitarian and homogeneous Javanese village communities is more an ideological than a scientific one. Both historical and contemporary studies support the existence of a commercialized village economy and a social differentiation on the basis of differential access to productive resources and to public positions. The latter studies show that the social differentiation processes still continue but that the diversification of the rural economy and increased labour mobility have prevented the formation of a pure agricultural proletariat. Occupational multiplicity in and outside the rural economy have, for the upper and lower strata of the communities, become respectively their accumulation and survival strategy. Care arrangements in family or patron-client networks are eroding without being replaced by institutionalized forms of social security. Market exchange and economic individualism in the commercial sphere are increasingly linked to community action in the ritual sphere.

2.5 Interactional Analysis of Plantation Systems in Java.

From the discourse about agrarian change in plantation systems I can draw a number of conclusions about the nature of their linkages. First, that farmers' production units increasingly become horizontally and vertically integrated economic organizations, and that commoditized and non-commoditized elements are interrelated in the (physical) linkage between the farmers' production units and the agribusiness (Bernstein and Pitt 1974; Long 1986).

Second, that these linkages connect the production systems not only to economic and political structures at the local and global levels, like Beckford (1972) argues, but that the non-physical linkages (i.e. fiscal policies, monetary policies, subsidization) and administrative regulations (institutional policies, price stabilization and juridical backing) connect these production systems to the political structures at the regional and national levels (Hirschman 1981).

Third, for the interrelation of processes at the village and supra-local levels various mechanisms of coordination are relevant. These mechanisms are related to linkages between social actors in a social system (Schweizer 1988) as well as between social units in vertically integrated organizational units (Glover 1984; Benvenuti 1975). Schweizer uses a network model for analyzing social interaction at village level, in which trust and cooperation form the central coordinating mechanisms. Benvenuti analyzes the interaction between agribusiness and farmers as hierarchies, where administrative orders and networks of professionals are the central coordinating mechanisms. Glover uses a market model to analyze the distribution of the benefits between agribusiness and farmers, in which price competition is the central coordinating mechanism, but on which hierarchies, associations and networks also have influence.

Two central issues in this context are the questions about the nature of processes leading to agrarian change, and about the interconnection of processes at local-level and supra-local level within integrated production systems.

Concerning the first issue, the contributions from a modernization approach presented here, like Boeke (1953), Furnivall (1939) and also Geertz (1963) and his agrarian involution thesis, base their explanatory schemes on social norms and values, internalized by idealized social actors. In contrast, the structural/historical approaches, like Beckford (1972), Bernstein and Pitt (1974), but also Hüsken and White (1989) and Breman (1995) have a productivist view of agrarian change. They base their explanatory schema of agrarian change on

differentiation processes and the development of capitalist production relations. Or like White argues:

Differentiation thus involves a cumulative and permanent...process of change in the ways in which different groups in rural society -and some outside it-gain access to the product of their own or others' labour, based on their differential control over production resources (White 1989:20).

With this definition the relations between local groups with differential control over production resources, or class relations, are located at the core of their analysis. Although class relations are an important dimension of social life, in these analysis little attention is paid to the concrete organizational configurations, and the concrete interaction between actors in the relations within and between operational units in what Schweizer called 'the commercial mode of interaction'.

This brings us to a linguistic and theoretical danger point: the analysis of categorical relationships rather than structural relationships. Hefner (1990:26) views 'class' as an important dimension of social reality, which he defines as:

the aggregate of individuals similarly situated to the control of the means of production and other market resources.

But he argues that power and actors' interests are not unitarily related to relations of production, but that status groups based on non-economic criteria, such as region, religion, or ethnicity can cut along (circumstantially given) class lines.²⁹ Hefner distinguishes the theoretical category class from the sociological concept 'group', the latter implying a common identity, collective self-awareness and coordinated action. Where class is an objective influence on the life-chances of the individuals, they only become aware of it and act upon that awareness individually or collectively under certain conditions.

Although Hefner's idea of status group is less than clear, since it implies a group-like contact between elements of what on closer examination turns out to be a category, i.e. an aggregate of elements that minimally have one characteristic in common, but do not necessarily interact with each other. Class and status group are only theoretical categories, mental constructs in the mind of an observer, and have nothing a-priori to do with social life, except that they can be used as the basis for group formation if this becomes a necessity or possibility. In other words, the association between the actors remains a theoretical one (a category) until actors, who can be seen as elements in this theoretical construct, consciously associate for coordinated action.

Evers and Schiel (1988:24) propose the concepts 'quasi-group'³⁰ and 'strategic group' to make a distinction between 'class' as a theoretical category and as a concrete social grouping.

²⁹ In this context Hefner refers to 'social stratification' as an "evaluative system of ranking used by the members of a society in attributing prestige" (Hefner 1990:26).

³⁰ An aggregation of either individuals occupying similar positions in the production process or those occupying similar newly created positions (e.g. teachers or medical doctors) can be covered by the concept 'quasi group' (Evers and Schiel 1988:21-24). Until realized as groups, these are only categories, however.

In their opinion, the transition of a 'quasi group' into a 'strategic group'³¹ is hindered by solidarity ties found within groups, based on primordial sentiments such as family, patron-client networks, or ethnic identity. Under certain conditions, however, often dramatic economic or political developments, the transition becomes strategically important in a conflict situation, a reform, or a social revolution.

Rather than analyzing relationships between theoretical categories I want to analyze concrete relationships between operational units in plantation systems. The core of my analysis is formed by the interactions at the 'social interfaces', or the linkages between the operational units, that form the integrated sugar production systems. These social 'interfaces' according to Long (1989) are critical points of interaction between different social systems, where competition over resources and conflicts over political or social agendas are most likely to emerge. In the interactions at the interfaces the social actors and units represent different interests, are backed by different resources, and are differentiated in terms of power. But in stead of making a-priori, on the basis of grand theories, assumptions about the relationships between theoretical categories, I only want to use such categories when empirical evidence justifies their application.

I take the position that both the norms and values and differentiation processes both influence and are the outcome of interactions and negotiations between social actors at the interface. The interactions not only affected the social actors, they were also influenced by them, institutions and resources distributions that are located beyond the interface. Or, as Long puts it:

Studies of social interfaces should aim to bring out the dynamic and emergent character of the interaction taking place and to show how the goals, perceptions, interests and relationships of the various parties may be reshaped as a result of their interaction (Long 1989:2).

Long uses 'social interface' and 'intermediate forms of organizations'³² as central theoretical categories for the field of development sociology.

Likewise, Thompson et al. (1991) use 'markets', 'hierarchies' and 'networks' as central categories for analyzing coordination processes, which form in their perception form the core of social life. These categories are not connected to the big-isms of social, political and economic analysis and have no limited purview. They make a modest claim on how coordination processes can be analyzed within organizational entities and between organizational units.

Thompson et al. (1991:16-19) argue that organizational configurations are social

³¹ By strategic groups Evers and Schiel mean social groups which act strategically in political and economic developments and conflicts on the basis of their common identity and consciousness. This common identity and awareness of the members is thought to develop from the similar social positions which they occupy in society, and from similar experiences in dealing with economic, social and political forces in a state. They argue that members of professional groups operating in the service sector more easily organize themselves into strategic groups than the actors in the production sector do. As an example of such groups in Southeast Asia, they mention civil servants, the military, teachers, professionals (academicians) and businessmen (Evers and Schiel 1988:24-25).

³² Long (1986:18-19) makes the same argument when he proposes to investigate the organization of the operational units of primary production and the intermediate forms of organization beyond these operational units. With 'intermediate forms of organization' Long means the associations and networks through which the actors inform and interact with each other within vertically-integrated production systems.

constructs, and that coordination mechanisms, like markets, hierarchies and social network models, have historically been established or deliberately been imposed through restructuring programmes.³³ On the one hand these mechanisms manifest themselves in different organizational forms, on the other, in the relations between social units specific combinations of coordination mechanisms are used. The two extreme market conditions are perfect competition and monopoly. Both hierarchies and social networks influence the market conditions. For example hierarchies are needed to stabilize prices or to impose monopolies. Market agents base their decisions on information about market conditions and ruling prices, which they obtain through social and increasingly through electronic networks.

Bureaucracies and corporations have to use the notion of hierarchy as an organizational technique. Hierarchies both involve internal structuring of an organization and external relationships between different institutional and organizational units (Thompson et al. 1991:9). Hierarchies are coordinated by operationalizing a fixed set of rules and a hierarchy of authority. To coordinate in this context means to exercise power and authority over a subordinate function or unit. Although these organizational structures can vary widely in forms (horizontal or vertical), in bureaucracies increasingly market and network mechanisms are incorporated to foster the efficiency of the organizational units.

Planning also involves the hierarchical coordination of semi-autonomous and autonomous organizational units, both public and private. For this coordination various organizational forms and techniques are used, like central or indicative planning at the macro-level and nationalization, administrative regulations and subsidization for the micro-level. Parallel to these macro and micro techniques are a set of political administrative apparatuses to coordinate public and private aspects of the economic apparatuses. At various administrative levels there are operational units, whose administrative competence and capacities are highly ordered and in theory fall under elected public institutions. But parallel to these political and administrative structures there are commonly informal networks through which economic interest groups negotiate regulations, contracts or compromises.

Johnston and Lawrence (1991) use the term 'value-added chain' for a product-line. This concept comes from the field of micro-economics, where it is used to describe the various steps something goes through from raw material to final consumption. For sugar the chain could look like: farmer - broker - basic processor - packer/storer - distributors - retailers - consumers. Economists have traditionally conceived the transactions at the linkages as arm's-length relationships or hierarchies of common owners. But in section 1.3 I have shown that for agro-industrial linkage that international organizations, national states, and agribusinesses have introduced complex institutional structures for plantation systems. In these integrated production systems various combinations of mechanisms are applied to coordinate the perceptions and actions of actors, and to prevent conflicts of interests between them in and between its operational units.

Similar anthologies appear in the field of the new economic sociology and the new institutional economics. Granovetter (1985) criticizes institutional economists who try to explain the emergence and structure of economic institutions, using sociological, historical and legal arguments, by showing that they arise as the efficient solutions to economic problems.

³³ The central coordination mechanism in a market is price competition, in a hierarchy administrative orders, and in a network trust and cooperation (Thompson et al. 1991:14).

This mission and the pervasive functionalism it implies discourage the detailed analysis of social structure, that I argue is the key to understand how existing institutions arrived at their present state (Granovetter 1985:505).

He argues that economic actions are embedded in the social structure, in the sense that they take place within the network of social relations that make up the social structure. These networks of social relations are formed by the intermediary forms of organization in which economic actors interact with each other, and the economic institutions which have originated from networks and have been locked into a single institutional pattern.³⁴ These patterns can have the features of markets and hierarchies. Smelser and Swedberg (1994) argue that the network approach lends itself to quantitative and qualitative analysis, the latter particularly for studying the actual interconnectedness among individuals and intermediary forms of organizations in the regional economy.

Summarizing, the nature of the processes leading to agrarian change in plantation systems requires the use of theoretical categories which are based on concrete interactions between actors in the network of social relations of that system. Although 'class' is an important dimension of social life, it remains a theoretical category until actors use it as a basis for group formation. For understanding the interconnectedness between processes at the local and supra-local levels in the plantation systems, or between economic actors in the organizational structure that makes up the integrated plantation system, a qualitative network approach is used. The approach focuses on the interactions between actors in the concrete social relations of the system, which are connected to the structure of the regional political system. However, a total reconciliation of the intermediary forms of organization and the interactions in the regionalized sugar production systems is impossible within the frame of this study. Therefore, this study analyzes the interactions between social actors in the operational units of cane production, and in the intermediate forms of organization beyond these units. The study focuses on the negotiations and strategies between social actors at the interfaces of a regionalized sugar production system. For this analysis theoretical categories are used that are based on the concrete interactions and organizations and have no limited purview. The categories 'networks', 'quasi-groups' and 'associations' will be examined in the next section because these categories will help to focus on the actors' strategies to influence the division of added value between the 'partners' in the chain by individual or social actions.

2.6 Associations and Coordination Mechanisms in Plantation Systems

There is an extended literature dealing with 'networks'. In a classic contribution, Mitchell (1969) uses the concept 'social networks' for the interpretation of social behaviour in either a structured or unstructured situation in terms of the personal dyadic links which individuals have with a set of persons. These dyadic links come from a common interest of the individuals; they become dormant when none of the actors is interested in the link any longer or an alternative link is found. Social networks are important for the flow of information, but they are also used for the flow of goods or services.

³⁴ DiMaggio (1990) has criticized Granovetter's position, arguing that economic action is embedded not only in the social structure but also in culture. This covers for example also cognitive and normative aspects of economic behaviour.

Knoke and Kuklinski (1991:177) list the contents of the relations between actors in a social network. They distinguish kinship and descent, and sentimental relations, the former indicating role relationships among family members and the latter the expression of feelings towards each other. When actors exchange control over physical or symbolic media, for example gift giving or economic sales, they speak of 'transactional relations', and when actors exchange information of 'communication relations'. 'Instrumental relations' are those connections which actors develop in an effort to secure valuable goods, services or information. 'Authority/power relations' indicate the right and obligations of actors to issue or obey commands. They speak of 'boundary penetrating relations' if the ties between actors consist of constituent sub components held in common, like corporation board of directors with overlapping members.

Another element of relations is its form, or the characterises of the relationship between pairs of actors (dyads). Mitchell points out that the social ties between the members of a network can be single-stranded or multi-stranded, of which the latter are more stable than the former. Exchange of information among acquaintances is an example of single-stranded relationship, and a share tenant asking his landlord for a loan is an example of a multi-stranded one. Another aspect is the level of joint involvement in the same activity (Knoke and Kuklinski 1991:177).

Boissevain (1974) and Bailey (1969) have explored the forms of association through which political and economic actors cooperate in exploiting new resources³⁵ in changing economic and political situations. Boissevain focuses on social networks and quasi-groups, while Bailey emphasizes rules and strategies in political systems.

Boissevain's point of departure in analyzing strategic groupings are personal networks.

It is the reservoir of social relations from and through which he recruits support to counter his rival and mobilizes support to attain his goals (Boissevain 1974:25).

The social relations that link people derive from the many different fields of activity in which each person participates. Social relationships may be viewed as transactions, in the sense that messages, goods and, services flow between the actors. When these flow in both directions, we can speak of exchange. However, certain imbalances may creep into the relations, which may result in power differences and make a transaction unilateral. Actors can develop strategies to establish indirect transactions with other actors with whom they have no relationship, by making used of the networks of persons with whom they do have a direct relationship. These interlinkages Boissevain calls 'social networks'.

In recruiting support actors might also consciously associate with other actors to attain individual or common goals. In discussing these forms of strategic groupings Boissevain makes a distinction between 'coalitions' and 'corporate groups'. He defines a 'coalition' as "a temporary alliance of distinct parties for a limited purpose" (Boissevain 1974:171). The ad hoc nature of coalitions make this grouping an ideal organizational form for strategic actions in situations where goals alter over time, resources shift, and relations between people change. In the ethnographic literature Boissevain found four types of coalitions,

³⁵ Boissevain (1974:147-148) makes a distinction between 'first' and 'second order resources'. First order resources are goods and services, such as land, jobs, scholarship funds and specialized knowledge. Boissevain calls the person who dispense these resources 'patron'. Second order resources are strategic contacts with persons controlling first order resources, and the person who has these contacts and is willing to manipulate them for the pursuit of profit, Boissevain calls a 'broker'.

namely cliques, gangs, action-sets and factions,³⁶ which are distinguished on the basis of their objective, organizational and leadership characteristics. Boissevain defines 'corporate groups' as

a collection of people recruited on recognized principles, with common interests and rules (norms) fixing right and duties of the members in relation to one another and to these interests (Boissevain 1974:171).

Bailey deals with the rules of associations and leadership in changing political systems. A political system operates within the limits set by agreed rules which specify rules for membership, how teams may be formed and led, lawful and unlawful tactics, and who can appoint a referee with the authority to see that the rules are observed. He defines 'political elites' as "those within the community who are qualified by the rules of the political structure to take an active part in political competition" (Bailey 1969:24). In political systems, Bailey traces a hypothetical evolution for both roles of leadership and for political organizations. Leadership roles evolve from ascribed to achieved, in which birth into ruling families is an ascribed qualification, and education, political experience or wealth are achieved ones. Bailey traces a similar evolution of specialization and solidarity in political groups. Strategies of political contestants to mobilize supporters evolve from recruitment through multiplex or unspecialized social groups (moral groups) towards recruitment through specialized contract groups (associations).³⁷ The membership of a moral group is rather stable, because its members are united around an ideal or are morally committed to a leader. The membership of a contract group is less so because the loyalty of the members is dependent on a contract they have with the leader to support him in return for some favour or services. Confrontations between contestants may result in an encounter, through which contestants publicly agree about the relative strength. Followers in a contract group can easily change to the winning side, in order to guarantee protection and favours to themselves.

The rules of political organization and of leadership form social interfaces,³⁸ in which alliances beyond governments design and impose institutional restructuring programmes.

³⁶ With the exception of 'clique,' all types have a central coordinator, and a 'gang,' moreover, is leader centered. All four types of coalition have a core of persons who meet regularly, and peripheral members. An 'action set' is clearly goal-oriented (action), while a 'faction' is set up by a leader to back him/her in competing for scarce resources with a rival. A 'clique' performs both emotional (expressive) and pragmatic (instrumental) needs of its members. Only in 'gangs' and 'cliques' do all members interact with each other, which results in behavioural norms vis-a-vis other members, and a sense of common identity (Boissevain 1974: 170-205).

³⁷ Bailey (1969:55) distinguishes simple from complex political groups. The first specialize in political action. Their leader has multi-stranded relationships with a core, but relations with followers are transactional or has are influenced through the allocation of resources. In complex political groups use is made of other kinds of social groupings, like those based on religion and kinship, for the recruitment and maintenance of the group. However, the highest level of solidarity is achieved when the group is organized as a bureaucracy, where all members have an interest in the corporate continuity of their organization.

³⁸ Scott (1976) points to moral and legal mechanisms which exploiting groups use in economic relations and arenas to prevent or limit conflicts. He argues that the normative system for economic action is not passed on through cultural inheritance but that rather it is a sociocultural construct, which changes over time as the well-to-do violate the models for economic transactions and the related moral codes, which they created at a time when it served their purposes. The capitalist class constructs the best possible ideological justification (often in terms of patronage and liberality) to the new code of behaviour for the actors involved. This new code is integrated into the community through discussions between the various actors in the interfaces.

Their economic restructuring programmes on the one hand can provide incentives to entrepreneurs to invest and organize production units and on the other prevent the formation of horizontally-oriented contract groups. For the latter, the government agencies can try to preserve what Bailey calls 'moral groups' or to form neo-corporate associations.

Kemp (1988) and Breman (1979) point to the image of Asian agrarian communities as corporate social units based on moral solidarity. Geertz (1963) reinforced this image, which served the New Order regime as a justification for its rural institutional and economic development policies. Using a military model, the New Order government imposed neo-corporate political and economic associations, after the elimination of local political forces that opposed them. Hüsken (1988:259) shows that the New Order government adjusted the command model in 1973 into a more integrated one, in which also local entrepreneurship, elite networks and markets obtained a place.³⁹ The government rewarded the formal leaders and entrepreneurs with financial gains for backing the restructuring policies, for recruiting political support, and for undertaking entrepreneurial activities at local level. These entrepreneurs are encouraged to invest in farm and non-farm activities and to prevent social conflicts, both of which contribute to highly valued economic growth.

These contributions deal with the interrelation between internal and external forces of agrarian change. For socio-legal systems similar processes can be observed, as was pointed out by von Benda-Beckmann (1986:208). He argues that where cultural pluralism is common, legal pluralism also prevails, and consequently central government policies are differently mediated through local and regional normative, socioeconomic and political structures and interactional processes. Conflicts between economic and political interest groups can be settled through political as well as legal strategies, in which law courts act as 'neutral' referees. Von Benda-Beckmann argues that the neutrality of legal institutions is an ideal. Those closest to the centre of political power at the various levels of the political systems, tend to have their laws applied. And although there is one formal, hierarchical legal system, the village and regional elites use different normative and legal systems alongside each other (von Benda-Beckmann 1994:77-81).

Taking into consideration the previous discussions of explanatory schemes of agrarian change, I shall briefly deal with the socio-cultural aspects of interaction at interfaces in the Southeast Asian rural context. These aspects are relevant for observers' interpretations of the form and content of the interactions, or their absence, at the interfaces.

Scott (1985) shows that agrarian conflicts, between the peasants and those who seek to extract labour, food, taxes, rents and interest from them, mostly are not manifested in communicative and coordinated actions or collective defiance. Scott writes that the ordinary weapons of relatively powerless groups are

foot dragging, dissimulation, desertion, false compliance, pilfering, feigned ignorance, slander, arson, sabotage and so on (Scott 1985:xvi).

All these forms of struggle have in common that they require little or no coordination; they make use of implicit understandings and informal networks; they often represent a form of individual self-help; and they avoid any direct or symbolic confrontation with authority (Scott

³⁹ The direct inducement was the failure of hierarchical techniques in the BIMAS or rice intensification programme, because the village officials tolerated the resistance by their fellow-villagers to the government's top-down approach (Hüsken 1988:258).

1985:xvi).

Schweizer wonders which mechanism of conflict control is specific to the Javanese context. He summarizes three characteristics in the superimposed meaning system: a formal acknowledgement of hierarchy; the trouble taken to contain and prevent the escalation of conflicts in the public sphere; and the extreme importance of neighbourhood harmony (*rukun*). These socio-cultural conditions, he feels, shape the form and nature of the interactions at the rural interfaces in the Javanese context.⁴⁰

These socio-cultural characteristics show that social actors with lower status positions in the hierarchy prevent public encounters at interfaces. This can be seen as a premise that in the Javanese hierarchical structure, interactions between patrons and clients have a strong symbolic component. Demonstrating respect and loyalty to the powerful patron suppresses the exchange of relevant information in hierarchies, a short-coming which is compensated by informal networks for the coordination of social life in the Javanese socio-cultural context.

2.7 Methodological Implications

A study of agrarian change in plantation systems and plantation societies should concentrate on the one hand on changes in the organization of the agro-industrial linkages, and on the other on changes in the organization of primary production. Following Hirschman's (1981) argument, the number and kind of existing physical linkages are tied to the specific technological characteristics of cane production and sugar processing. These physical linkages are independent of the social and political context, in contrast to fiscal and consumption linkages, which are directly related to these contexts, as the state attempts to regulate the distribution of the added value between the plantation system and the public sector, as well as between the interest groups in and beyond the plantation systems, such as outgrowers, mills and consumers.

This raises questions about the proper levels of observation and analysis for a study about plantation systems. In the introduction and the previous two sections I presented my arguments for a regional analysis of plantation systems using a meso-theory of interactions at the interfaces between social actors and units in these integrated production systems.

For plantation systems, local-level studies can easily be combined with a regional-level analysis. The political administrative apparatuses impose the institutional structure of plantation systems, and it is through these structures that economic actors at the village level interact with those at supra-local levels. It is through this institutional structure that operational units at the village level have interfaces with larger economic organizations and the political administrative apparatuses.

In this study, therefore, I combine village-level studies of sugarcane production with a regional-level analysis of interactions at the agro-industrial linkages or interfaces of the sugar production systems. The local-level studies enable me to analyze the pattern of interactions in the social relations of the operational units of primary production, and in the interfaces that link these units with the actors and organizations at supra-local level. The regional-level

⁴⁰ "Merchants and farmers abandon measures evoking great dissatisfaction; hired labourers do not protest openly, but express unwillingness by absenting themselves and by spreading rumours. Although this style of bargaining may seem to proceed without emotion, beneath the surface changes may be imminent. But these conceptions regulating the form of interactions nevertheless allow the actors an individualistic orientation -within limits, felt (ideally) when others are offended by the incisive nature of the actors's behaviour and train of thought" (Schweizer 1989:307-308).

analysis will examine the interactions at the interfaces from a supra-local perspective and connect them with the interactions in the institutional structure of the regionalized production system.

The analysis of primary production in the plantation systems will focus on three aspects: the organization of the operational units of sugarcane production, the relations of production in these units, and the intermediate forms of organization beyond these units. Therefore, the concrete forms of the operational units of sugarcane production are examined, which beside the management structure, also covers the labour, land tenure, credit, and marketing relations. For the interpretation of economic strategies and tensions between actors from different households in the operational units, their on-farm, off-farm and non-farm activities are covered. The village studies focus on socioeconomic changes in the agrarian communities that are a consequence of sugarcane production. However, it will be difficult to connect these changes to the linkages of cane production only, given the general commercialization of the rural economy.

Using a comparative approach, different village-level studies can bring valuable insights into local diversity. In order to facilitate the comparison of the local-level studies with different agro-ecological conditions, a common framework is developed for the village studies, based on the foregoing theoretical discussion. The village studies have the following structure:

- a: The agro-ecological and general geographic conditions and the agricultural history that influenced the present agrarian structure and the farming systems. The focus in sugarcane producing villages will logically fall on the introduction of the linkage and imprinting process of the sugar product-line.
- b: The organization of the operational units in sugarcane production, and the intermediary forms of organization beyond these operational units.
- c: An inquiry into the production styles and strategies, the applied technology, the on-farm and off-farm activities, the land tenure, labour, and credit arrangements of the different types of operational production units.
- d: The interactional patterns between the actors in the different types of operational units, and between the operational units and the actors in the intermediary forms of organization.
- e: The mechanisms used to coordinate the economic activities and to prevent encounters in the interfaces at the local level, and in the linkages with the supra-local level.

To analyze the interaction between the actors in the operational production units at the village level and the intermediate forms of organization beyond these units, a network analysis is used in which special attention is paid to the goals, perceptions and strategies of the actors in the social relations of sugar production. These analyses are not based on rigorous quantitative network methods, but qualitative assessments are made of the networks, groups and institutions in which the actors in the integrated sugar production systems interact. The relationships in the network are studied on the basis of the social actors' subjective experiences of the interactions, and their perceptions of the conflicts of interest, goals and actors' strategies in the relationships.

The analysis of the mechanisms the actors use to coordinate activities and to control conflicts of interest opened up a challenging field of inquiry. The actors' perceptions concerning conflicts in relations brought into perspective their contrasting models of the interface. The mechanisms of conflict control through communicative interaction fall outside the scope of this study, although it is a challenging area in the study of social and cultural change. In this study I limit the analysis to the social, economic and political strategies of

actors at the interfaces of the regionalized sugar production system.

In the previous discussion of contract farming, various authors argued that its institutional structure reached to national and even international levels. For the value-added chains of politically important products the social actors in the institutional structures at the supra-regional level play a central role. This study leaves the interactions in the sector's institutional structure at the supra-regional level out of the analysis. However, I try to compensate for this shortcoming by making a macro-level study of the organizational changes in the agro-industrial linkages, the changing political alliances operating beyond the sugar industry, and the national policies and regulations relevant for the regional sugar industry. This study provides a picture of the national political and economic structures with which the actors in the regional sugar industries interact.

I will not elaborate here on the applied methodology; this can be found in Appendix 2. one consequence of the explorative nature of the study was that I was primarily interested in qualitative information. As a researcher I often communicated with actors who had contrasting perceptions of the content, form and consequence of their transactions. It was often difficult to maintain the position of independent observer, and I sometimes had the feeling that I needed quantitative data, for example about the sugar content or the financial administration, to check whether certain actors' complaints or my working hypothesis could be based on quantitative evidence. Although I collected quantitative information, I did this in order to understand the arguments of actors better, or to be able later to illustrate an argument with quantitative information. However, my major source of data were the perceptions, actions, opinions, justifications and dilemma's expressed by the different categories of actors in a regionalized sugar production system.

3 THE CHANGING STRUCTURE OF JAVA'S SUGAR PRODUCTION SYSTEMS

This chapter focuses on the historical development of the Javanese sugar industry by looking at the successive political periods, starting with the Cultivation System in 1830. The industry was founded during the Cultivation System period (1830-1870) and later became a leading supplier of sugar on the international market. After independence, however, the sector went through into a long depression and drastic changes occurred in its linkage with sugarcane production and its organizational structure. These changes were related to a new configuration of actors and parties in and beyond the sector. In this chapter, therefore, these changes are related to the strategies of different categories of actors, who operated in or beyond the Javanese sugar industry.

For a periodization in the political history of Indonesia, historians commonly distinguish the colonial and post-colonial periods. They sub-divide the colonial period, in relation to the Javanese sugar industry, into the Cultivation System, lasting from 1830 to 1875, and the Corporate Plantations System (1875-1940). The post-colonial period is commonly sub-divided into Old Order era and the period of the New Order government. However, the Old Order government changed its sugar industry policies after it nationalized the foreign owned mills, while the New Order government continued the Old Order's policies for ten years, until it decided on structural reforms. I, therefore, make a division between the periods of the Multi-party system (1949-1957), the Guided Democracy and the early phase of the New Order government (1958-1975), and the New Order's TRI program periods (from 1976 onwards). The emphasis in this chapter will be on the post-colonial period.

Before discussing the historical context some technical aspects of sugarcane production must first be explained. Sugarcane (*Saccharum Officinarum*) is vegetatively propagated from cuttings of young cane (plant cane) as well as from the root stocks of a harvested crop (ratoon cane). Depending on the prevailing climate,¹ plant cane needs 12 to 23 months to mature and ratoon cane 10 to 18 months. Sugarcane can be grown annually from plant cane, which is called the plant cane or *ungaran* production system. It can also be ratooned for several successive growing seasons, in Java from October until September, before the stubble is ploughed under. This is called the ratoon or *keprasan* production system. During the 1880s, the sugar mills developed a third production system for *sawah* land, which they called the reynoso production system. Under this system, the mills, at the end of the rainy season, planted cuttings in deep drainage or irrigation furrows, dug on *sawah* holdings. The young crop was only irrigated during the dry season (May until October), and while the plants developed, the stalks were ridged to prevent them from being flattened. The mills used special cane varieties for the reynoso production system, which had to be uprooted after the

¹ The ecological requirements of sugarcane are described in Appendix 2 and can be summarized as: light to heavy but deep soils with good drainage and structure; daytime temperatures between 20 and 30 C and free of night-frost; rainfall ranging from 600 to 1500 mm/year with a distinct dry period of four months; and an altitude ranging from 0 to 1350 meters (ILACO 1981: 490).

harvest. For this system the mills annually rented one fifth to one third of the *sawah* land in the village communities, rotating one section after the other. This combination of crop rotation, land tenure and tax system is known as the *glebak* system.²

3.1 Cultivation System (1830-1870)

In the early years of the VOC (*Vereenigde Oost-Indische Compagnie*; United East India Company) Chinese merchants already controlled sugar plantations and sugar mills in West and East Java. They rented cane land from the Javanese aristocracy through a seigniorial village-lease system³ and through "free" arrangements, and processed the cane into brown sugar, which was either traded locally or exported. Around 1800 the VOC ran sugar estates in both Central and East Java, and around Batavia (Jakarta), and leased out land for that purpose. The land was rented mainly by Chinese entrepreneurs and was worked using peasant labour, for the production of sugarcane and brown sugar, which then had to be sold to the VOC (Burger 1975:54-57).

Various events during the early nineteenth century led to the exhaustion of the Dutch treasury. The expenses of reconstruction after the French occupation of the Netherlands, the costly revolt against its authority in Belgium, and above all the financial burden of suppressing revolts against the Dutch in the East Indies, such as the Java War between 1825 and 1830, brought the Netherlands to the edge of bankruptcy. In 1830, in an attempt to solve this financial crisis by extracting wealth from the Dutch East Indies, a governor-general was appointed who had ideas on the profitable administration of the colony. This man, Van der Bosch, immediately upon taking up his duties in 1830 introduced the Cultivation System (*cultuur stelsel*), which remained in effect for four decades.

Under this system, the colonial government began the cultivation of export crops on the holdings of Javanese peasants. Geertz describes the essence of the system as follows:

the remission of the peasant's land taxes in favor of his undertaking to cultivate government-owned export crops on one-fifth of his fields or, alternatively, to work sixty-six days of his year on government-owned estates or other projects (Geertz 1963:52-53).

Many of these export crops failed, but the government's sugar and coffee production turned out to be quite successful. The reason for this was that sugarcane produces best on irrigated and well-drained land, conditions almost identical to those of the peasant's wet rice cultivation on *sawah*. With the exception of the indirectly ruled principalities of Surakarta and Yogyakarta, villages with *sawah* were obliged to annually devote a fixed proportion of the *sawah* land to sugarcane cultivation. The cultivation of this crop was supervised by

² In the previous chapter I referred for technical information about sugarcane production to Appendix 2. For the organizational structure during the various political periods, see Appendix 3.

³ The members of the Javanese aristocracy had each allocated a number of villages as an *apanage*, from which they could levy that part of the revenue - taxes in money, kind, and in *corvée* labour - that was not claimed by the Company. The *apanage* holders could decide on the mix of levies they wanted, and had stewards (*demang*), village heads (*lurah*) and well-to-do peasants (*sikep*) to collect the levies. When an *apanage* holder needed cash, he could lease a village's landholdings to Chinese entrepreneurs (Boomgaard 1989:4-5).

colonial officials; for the field operations they relied on *corvee* and wage labour. In areas where sugar mills already operated, the colonial government contracted the supervision of cane production and the sugar production out to the mill owners. In new cane areas the government contracted the crushing out to entrepreneurs willing to construct technologically modern mills using interest-free loans from the state. Chinese entrepreneurs were the first to obtain these contracts, but when these proved to be lucrative, Europeans also became interested in them. Some sugar mills were established by the colonial government, but these endeavours failed (Burger 1975a:108-119; Koningsberger 1945: 290).

According to Van Niel (1990:85) the organization of sugarcane production was based on two sets of contractual arrangements. The first were the arrangements between the colonial local administration and the villages, and had as objective the arranging of planting and tending of cane on a section of the village's *sawah* land holdings. The second set, between the colonial local administration and the sugar mill operators, aimed at the construction of sugar mills by entrepreneurs using government loans, in which government cane was processed. The sugar that was produced had to be delivered to the government at a stipulated price.

In the *sawah* zone the government's sugarcane had to rotate with peasants' food crops. The peasants disliked sugarcane as a crop because it impacted negatively on soil fertility and on the water management systems. Annually they had to plant one-fifth of their *sawah* land with cane, using a different section each year. The village community had to organize its food crop cultivation, mainly rice, around the periodically changing land needs of the sugar mills. As compensation for the loss of their usufruct rights, the owners at first did not need to pay land tax. Later they received a kind of land lease (*plant loon*). The labour force was recruited through village officials and labour in excess of the labour services (*corvee diensten*) was counted as wage labour. When the production targets had been met, the colonial administration paid commissions (*cultuur procenten*), which were based on the export values of the sugar, to the local regents, village leaders, and overseers.⁴ All sugar was exported by the *Nederlandsche Handel Maatschappij* (Dutch Trading Company), the crown's shipping agent which developed into a private investment company focusing on the colonial estate sector (Fasseur 1977:224).

Under the Cultivation System coffee and sugar became the major export crops. Sugar production increased from about 1,200 tons in 1826 to 172,000 tons in 1870. The value of the exported coffee and sugar in 1870 were respectively 44 and 32 million guilders. In this government managed sugar production system, the colonial administrative officials, the indigenous elites, and the sugar mill operators were given financial incentives to link mill managed sugarcane production with peasants subsistence production, and to link mill managed sugar production with the colonial state's trading company. It was the villagers who, almost free of cost, provided both land and labour to produce both the cane and continue to cultivate food crops on the remaining holdings (Burger 1975a:58, 108-119; Burger 1975b:79).

Concerning the linkages and organizational structure of the sugar industry during the Cultivation System period, a number of conclusions can be drawn. First, the colonial

⁴ The village officials received a considerable premium from the mills for their role as intermediaries. Under this premium system, which was introduced in 1832, local leaders received f 0.50 for each quintal cane produced in the village. The resident assistant (*camat*), the resident (*wedana*), and the regent (*bupati*) each received f 0.10, Dutch administrators f 0.05 and other actively involved officials f 0.15 (Mubyarto et al. 1968:72 fn).

government imposed a system of external linkages for cane production. Through taxes, and by using the village heads as intermediary agents, the government linked cane production to a fixed proportion of the land and labour of the peasant sector. Cane production was managed by outsiders, who worked through the local village elites.

Second, the colonial government controlled the product-line from cane production to sugar export. Through a system of commissions it brought financial gain to the colonial officials, the village elites and the sugar mill owners, who operated this vertically integrated system under state control. Third, the colonial government contracted the technologically most complex operation in the product line, that of refined sugar production, to entrepreneurs. Through contracts and interest-free loans it allowed the private sector, which consisted only of foreigners, to construct and manage the sugar refineries. And finally, at the supra-local level the sociopolitical environment of the sugar production was dominated by the monolithic colonial government, and at local levels by the aristocratic elites and the village heads, whose support the government obtained through financial incentives.

3.2 The Corporate Plantation Systems (1870-1942)

In 1848 the liberal parties in the Netherlands succeeded in making substantial constitutional changes. One of these concerned the relation between the King's executive and the Dutch legislature, in which the legislature obtained control over policies implemented by the executive, including colonial policies. The liberal merchants hesitated to abolish the Cultivation System, from which they had also benefitted, and demanded that Dutch private enterprise replace the government in the exploitation of the colonies. The owners of the sugar factories warmly supported this change in policy because it would make them less dependent on the government. The planters expected to increase both the efficiency of the sugar sector through vertical integration, and their control over the whole product-line from sugarcane cultivation to sugar export.

From 1860 on, the Dutch colonial government reformed the indigenous administrative system and curtailed the privileges of local potentates. They created an indigenous administration parallel to the local colonial one. On the Indonesian side the new administrative elites (*priyayi*) increasingly challenged the higher aristocratic elites. These Indonesian officials, who came from social backgrounds similar to the old elites, had obtained their position through education rather than through ascribed status, as had been the case with the aristocratic elites. For the implementation of policies and programmes the Dutch increasingly cooperated with the assistants to the regency head or regent; the *patih* at the district level and the *wedana* at the sub-district level. The colonial government curtailed the *apanage* rights of local officials and replaced them by salaries. The number of both Indonesian and Dutch officials increased drastically as new public services, such as education, irrigation and health services, were started (Ricklefs 1981:114-124).

Islamic leaders and indigenous entrepreneurs also emerged as new status groups, both in the cities and in the rural areas. These entrepreneurs expanded their economic activities, like trade, farming and usury, which enabled them to increase their political influence and to improve their religious image. Each year an increasing number of these entrepreneurs could afford to go on the *Hajj*, the pilgrimage to Mecca. They increasingly challenged the leadership of Islamic scholars (*kyais*) and also sometimes led protest movements in the rural areas (Ricklefs 1981:114-124).

Beside these new administrative and leadership relations, economic relations in the sugar

sector changed drastically as well. The colonial government replaced the *corvee* labour services by free labour arrangements for work at the sugar factories. The mills used labour-tying loans to secure a sufficient number of factory workers during the crushing season, but the labourers often defaulted on these labour contracts. The sugar factory supervisors had to rely on the assistance of village heads for the recruitment of labour. For the recruitment and supervision of labourers in the cane fields they increasingly enrolled local overseers (*mandors*). The mills paid the wages through these overseers and paid land rents directly to the landowners, thereby decreasing the role of the village head (Burger 1975a:130-133).

1870 saw a legal reform with the introduction of the Agrarian Law and the Sugar Law, which provided the legal framework for the development of an independent sugar industry.⁵ Through the Agrarian Law the government backed the interests of the mill and tried to protect the landowners against abuses by lessees or village officials who acted as their agents.⁶ Only some sugar mills obtained leaseholds for sugarcane estate in the *tegal* areas of the frontier regions. The other element of the legal reform, the Sugar Law of 1870, anticipated a gradual transfer of the supervision of sugarcane production at village level from government officials to the mill owners. It also foresaw the gradual replacement of forced land leases and labour services by free land tenure and wage labour arrangements. From 1879 onwards, one-twelfth of the sugarcane area each year was transferred from the Cultivation System to a "free" land and "free" labour control system (Burger 1975a:131-133).

Around 1884 declining prices for Indonesian sugar on the international market caused drastic technological changes in the sugar industry. The international financial crisis and increased competition on the international sugar market led to declining exports of Javanese sugar. In order to regain their market position, the mill owners had to invest in new processing technology that improved the quality of their product and the efficiency of their mills. This led to larger mills, needing more cane, and a concentration of ownership- and management structures in the sugar industry.

Both the cultivation techniques of sugarcane and the technology of the sugar refineries underwent considerable changes. New crushing equipment and modern refinery technology had to be applied to improve the quality of sugar. This made enlargement of scale and the enrolment of trained technicians inevitable. To compensate for these costly investments, the mills needed more cane and even started to compete for land in each others' hinterland. The mills applied fertilizers, planted new cane varieties, and developed the *reynoso* production system, innovations which resulted in an increase in sugar yields from 4 tons per hectare between 1850 and 1870 to 6 to 8 tons per hectare between 1880 and 1890 (Burger 1975b:103).

In a period that the mills ran at a deficit, large investments were needed, which were beyond the financial capacities of the individual entrepreneurs. The economic crisis led to

⁵ The new Agrarian Law made it possible for entrepreneurs to obtain leaseholds on "waste" land from the government and to lease land from the indigenous farming communities. From 1870 onwards both Western and Chinese entrepreneurs invested in the estate sector and in agro-industry, especially in the frontier areas of West Java, Sumatra, and East Java.

⁶ The mill owners wanted to have access to sufficient *sawah* area at affordable rents, while the indigenous landowners wanted to either use the land themselves or to receive acceptably high rents. The government, through the land tenure ordinances, tried to mediate between these interests of on the one hand rural welfare in the hinterlands of the mills and on the other the profitability of the mills (Burger 1972a:130-136).

a financial concentration, because trans-national agribusiness corporations acquired the ownership of mills from indebted planters.⁷ These lacked the capital to withstand a long economic crisis, giving the financial corporations an opportunity to buy their businesses and enrol the former owners as their managers. In 1894 the corporations founded a syndicate of sugar mill owners in Surabaya. This syndicate's task was to protect their interests vis-a-vis the colonial government, to prevent competition for resources,⁸ and to stimulate cooperation in research and development activities.

At the turn of the century Christian opposition parties in the Dutch parliament increasingly criticized the liberal colonial policies, which in their opinion led to a lack of economic development and a decline in the economic welfare of the Javanese agrarian communities. These critiques and the results of investigations forced the Dutch government to design new policies, with the objective of stimulating economic development for the native or peasants sector of the economy. This policy, which was known under the name "Ethical Policy" was implemented from 1901 on. Aside from providing better legal protection for the peasants against the plantation sector, it also covered such activities as irrigation, education, credit programmes, health facilities, and resettlement (Soetrisno 1980: 110-138).

The land tenure relations and the water distribution systems were the main sources of tension between the mills and the peasants in their concession areas. The colonial government used the Land Ordinance of 1871 to regulate land tenure relations between the mills and the peasant communities. It decided on the maximum area of *sawah* that could be rented and on the procedures for doing this, and it set the standard for the rent a mill should pay. In response to the mill's new cane production system, the communal tenure systems evolved towards the *glebakan* tenure system in the mill's concession areas.⁹ The mills favoured communal tenure systems, which enabled them to negotiate land rent contracts for communally owned land with the village leader. At the same time, the colonial government tried to lessen the tensions around the rights to water by investing in technical irrigation and

⁷ Furnivall (1939:198-199) described the changes in the estate sector after the crises of 1884 as follows: "After the crisis the enterprises were reconstituted as limited liability companies, and the private individual owner, responsible only to himself, gave place to a salaried manager, responsible to the directors of the company. The Culture Banks continued to finance these enterprises, but, whereas their relations with them had formerly been purely commercial, now they insisted on control.... Further, the Culture Banks themselves were no longer autonomous; they became linked with normal banking institutes with headquarters in the Netherlands"

⁸ Through the factory ordinances the government prevented competition for land and the establishment of new sugar factories. The ordinance specified the hinterland where the mills could rent *sawah* land, and the maximum area of *sawah* it could annually rent there. The government also considered the availability of irrigation facilities when it issued ordinances. When sugar factories asked to increase the maximum *sawah* area they could rent in their hinterland, they were advised to invest in or contribute to the development of irrigation facilities (Koningsberger 1946:290).

⁹ Bound by a maximum *sawah* area that could be rented, the sugar factories tried to find other ways to increase both cane and sugar production. One option was to invest in irrigation infrastructures so that both cane production and peasant food production could be intensified. With technical irrigation available, the government allowed the sugar mills to rent one-fourth or even one-third of the *sawah* areas from the communities in their hinterland. For efficient cane and sugar production the mill needed large blocks of land, that could easily be irrigated and where the ownership boundaries could be ignored during field operations. The *glebakan* system, which integrated land tenure, land tax, and crop rotation in a large area, allowed them to do this (Soetrisno 1980:110-138).

reorganizing the water management system. During the Cultivation System period, the colonial administration changed the native water management systems to adjust them to the needs of intensified sugarcane production,¹⁰ enabling the mills to negotiated access to land and water with the village leaders. Later, when the reynoso production system became the dominant mode, the government introduced water-use regulations, which granted cane exclusive day time rights to irrigation water during the east monsoon (May-September).¹¹ Later the irrigation department appointed a water distributor (*mandor*) at village level and an irrigation overseer (*mantri irigasi*) at the sub-district level, access to whom was essential to influence the distribution of water. This placed the mills in a superior position because of the financial incentives they could offer these officials (Soetrisno 1980:87-105).

In all major sugarcane growing areas in Java, farmers opposed the forced land-lease system and the primacy of the mills in obtaining irrigation water. In the late nineteenth and the early twentieth century the colonial government tried to relieve the tensions between the mills and the local landowners by protecting the landowners' interests through land-lease regulations and by upgrading and constructing technical irrigation systems in the cane growing areas. Between 1895 and 1925 the colonial government issued several land-lease laws and ordinances to regulate the relationship between the sugar factories and the peasants.¹² The peasantry kept complaining about the negative consequences that the forced land tenure system had for them: low rents, disruption of their food supply and the destruction of their *sawahs*; the latter was a result of the reynoso production system, in which the mills dug extensive irrigation and drainage systems and completely ignored the terraces and boundaries of private holdings.¹³ Levert (1934:320) and Elson (1979:222) show a sharp increase in number of cane fires until 1911. Fearing both growing economic damage and political instability in the sugar regions, the colonial government imposed strict regulations and police control.

The *Sarekat Islam* (Islamic Association) founded in 1911 was the first mass organization to deal with political and economic issues during the colonial period. The organization

¹⁰ It changed the *adat* or customary water-use regulations so that water rights were no longer crop-bound but land-tied, and it authorized the village leaders to administrate both land and water resources.

¹¹ This day and night water distribution regulation had many negative aspects for the peasants. They had to work and supervise the distribution of their water at night and had to select other crops because of the irregularity of the water supply during the east monsoon. To relieve some of these problems the government decided in 1919 to construct water reservoirs (*waduk*) in all sugarcane areas, so that both cane and rice could be irrigated during the day. This *waduk* system, however, failed to solve the conflict between the peasant's and mill's need for water (Soetrisno 1980: 110-138).

¹² In 1918 the colonial government issued a minimum land-hire ordinance that had the objective of making long-term land-lease contracts without advance payments attractive. The ordinance gave a formula for the minimum rent on the basis of a calculation of the opportunity costs for food crop production (Van der Flier 1932:118). For more detailed information on central regulations concerning the land tenure and water management relations between the mills and the peasants see Elson (1984:162-165) and Soetrisno (1980: 94-138).

¹³ The coercion exercised by the colonial and local administration left the peasants with few ways to express their discontent. Renting the holding to a third party, or ratooning the cane were ways to undermining the *glebakan* system. Planting a food crop just before the holdings had to be handed over to mills or setting fire to cane were individual protest actions against the mills' intrusion on peasants' land and a way to have the land returned to them more quickly.

recruited its membership especially from two social categories: the Islamic scholars (*santri*) and the members of the lower nobility (*priyayi*). Leadership of the Sarekat Islam at the village level was in the hands of the Islamic scholars leading the Islamic schools (*Pesantren*).¹⁴ By opening offices where labourers and peasants in the sugar regions could express the unfocused discontent and register their complains, and by exposing abuses of powers by officials, the Sarekat Islam from 1912 onwards quickly built a support base in East Java and was particularly successful in the sugar regions (Soetrisno 1980:130-133; Elson 1979:228).

In 1917 the movement formulated several political demands in the name of the peasantry in the sugarcane regions. They demanded a replacement of the coercive land-rent system by a system based on free market mechanisms and a stop to any involvement by local officials in land-rent deals. They also demanded that indigenous landowners be able to buy shares in sugar corporations. These demands and threats of strikes by the PFB (*Personeel Fabriek Bond*; Union of Factory Personnel) shocked the Java Sugar Syndicate. The government mediated in the conflicts between the PFB, the land owners, and the Syndicate, and made inquiries into the workers' and peasants' complaints, trying to find compromises.¹⁵ Within the Sarekat Islam conflicts arose between the radical and moderate wings, or the red and green factions. The left wing pushed for more radical actions against the colonial government and foreign owned industries. On the other hand, the conservative wing had its roots among traders and scholars, and was more concerned about the emancipation of Islamic entrepreneurs relative to the foreign ones (Elson 1984:197-208).

The Great Depression of the late nineteen twenties drastically affected both the organization and the operation of the sugar industry. Sugar prices dropped sharply, and piles of unsold sugar stocks increased dramatically. Until 1933 the sugar corporations opposed any government intervention aiming to restrict sugar production. However, when in 1931 China and Britain raised their import duties, and the stocks of sugar at the mills quickly grew, the government adopted the "Chadbourne Plan," which restricted the export of sugar, the area planted with sugarcane, and the number of mills that were allowed to operate. The government founded a central sugar marketing agency (NIVAS) of which all Javanese sugar mills had to become members and use to sell their sugar. When export volume declined further, the cane area was reduced from 200,000 ha during the 1920s to 34,000 ha in 1933. NIVAS even advised that no sugarcane be planted at all, but the mill owners preferred to keep their best mills in operation serving small cane areas, rather than closing them permanently (Furnivall 1939:436).

Having lost their export market the sugar mills started to compete on the national sugar market. The heavily-capitalized Dutch sugar companies ousted all private entrepreneurs and Chinese competitors from the production and export business, removing the Chinese from the control of the domestic sugar market. Only six Chinese sugar factories survived, of which five belonged to the country's largest Chinese enterprise, the Oei Tjiong Ham Concern of

¹⁴ These had Islamic preachers or ulamas, whom they had trained in the *Pesantren*, as their followers at the village level. The *ulamas* enjoyed higher respect from peasants and labourers than the formal village leaders did, because of their opposition to the privileges which the administrative elite claimed for itself (Ricklefs 1981:114-124).

¹⁵ After World War I sugar prices boomed and the factories made large profits. The government persuaded the sugar factories to improve the labour conditions and thereby removed the major motive for PFB support among factory workers (Elson 1984:203).

Semarang. The largest indigenous Indonesian business enterprise, the business trust belonging to the Mangkunegoro royal family, operated two factories in the Surakarta Regency (Sutter 1959:15).

Concerning changes in the linkage and organizational structure of the sugar sector during the period of liberal and ethical policies a number of observations be made. First, changing political forces in the Netherlands caused a reformulation of the role of the colonial government, transferring its production activities to the private sector and concentrating on the provision of public goods and the political and legal backing of private capital. The government now was no longer directly involved in the profits and losses of the sugar industry, but relied on fiscal linkages for its revenues.

Second, international economic forces caused a need for technological innovations which also led to new linkages, ownership and management structures. The new technology and financial resources were beyond the financial capacities of independent private entrepreneurs; foreign corporate capital provided the money to invest in the technology and to engage foreign technical staff to operate and manage the sugar refineries.

Third, no major changes occurred in the organization of the agro-industrial linkages. The colonial government was no longer directly involved, but acted as an intermediary between the sugar mills and local government officials. It created conditions for capital accumulation by backing the mills both politically and legally. When the corporations proved incapable of regulating production and marketing, the state was allowed to intervene to stabilize prices. Fourth, the sociopolitical environment of the sugar industry consisted on the one hand of the owners and operators of the sugar mills, who were quite influential in the monolithic colonial government and on the other hand of the local officials, entrepreneurs and religious leaders, who increased their influence in the mills' hinterland at the expense of the aristocracy and the mills' agents at village level.

2.3 The Japanese Occupation and the Revolution (1942-1949)

Around 1940 the sugar markets briefly recovered, but the Japanese occupation which followed, led to a further relapse of the industry. The State Mobilization Council originally planned to order the destruction of sugar mills in the face of the Japanese invasion, but actually only had the vital parts of the refineries destroyed. Later the council cancelled these orders and damage was limited to some mills in Central Java, Solo, Cirebon and Madiun. The Japanese military authorities founded a new organizational structure for the sugar industry,¹⁶ and on 1 June 1942 gave *Java Togyo Rengo Kai* supervisory powers over the sugar industry. The Togyo decided that six Japanese companies had to take over the management of the Dutch sugar mills, from which policy it excluded the five mills owned by Indonesian corporations. The Japanese authorities closed 27 of the 112 sugar factories operating in 1942, and the remaining 80 it divided between the six Japanese sugar companies, proportionally to the size of these companies' holdings on Taiwan. Dutch personnel continued to work for the new employers, but as more Japanese civilian technicians arrived, the

¹⁶ The Japanese military administration (*Gunsei Kanbu*), formed three institutions to replace the existing ones: the Syndicate of Javanese Sugar factories became the *Java Togyo Rengo Kai*, the NIVAS marketing board changed to the *Java Sato Hambai Kumiai*, and the Sugar Industry Research Association became the *Togyo Shikenjo* (Postma, d'Hane and Meijenfeldt 1946:10).

Japanese dismissed and interned the Dutch staff (Postma, d'Hane and Meijenfheldt 1946:7-12).

The Japanese had little interest in maintaining the Javanese sugar industry. Initially they planned to maintain sugar production on Java at a high level, but in 1943 they halved the cane area and the freed acreage farmers used for rice cultivation. Subsequently the Japanese converted some sugar mills to the manufacture of fuel, caustic soda, and the like, or used their equipment in other industries (Sutter 1959:155,193). In 1943 the Japanese again changed the organizational structure, reestablishing *Togyo Rengo Kai* as the coordinating board and reducing the number of factories to 51. The remaining 45 foreign owned sugar mills they redivided among the six Japanese companies, but this time on a geographic basis. During the Japanese occupation sugar production declined from 1.339.976 tons in 1942 to 496.832 tons in 1944 and an estimated 84.245 tons in 1945 (Postma, d'Hane and Meijenfheldt 1946:49).

The Japanese occupation force tried to obtain the support of the leaders of the independence and Islamic movements. They allowed the formation of political parties and actively supported the formation of the Masyumi, a powerful federation of Indonesian Muslim organizations, in which the leaders of the urban based Muhammadiyah and the rural based Nahdatul Ulama organizations occupied the leading positions. The Japanese favoured the Islamic organizations over the other political forces and organizations (Benda 1958:161).

Immediately after the Japanese capitulation and the declaration of independence, the struggle for independence started. The four nation-wide political forces at that time were the nationalist PNI (*Partai Nasionalis Indonesia*; Indonesian Nationalist Party), the modernist Islamic Masyumi, the conservative Islamic Nahdutul Ulama, and the communist PKI (*Partai Komunis Indonesia*; Indonesian Communist Party). Each of these parties had a cluster of associations that organized different sections of the population: women's clubs, youth groups, scouts, charity societies, cooperatives, labour- and farmers unions, art groups and the like. Discussions on political and economic issues took place at the top of these clusters. Two central topics in these discussions were the compromises that the Indonesian Government was willing to make in its negotiations with the former colonial power and foreign capital, and the future organization of the national economy.¹⁷

The political fractions became increasingly involved in a struggle for positions and in ideological debates, rather than in finding practical solutions to political and economic problems. The various communists parties and the socialists, or the Left Wing, proposed to combat international imperialism and the nationalization of all capitalist enterprises. The nationalist, Islamic and the conservative parties argued for a mixed economy with free market mechanisms and state intervention to realize social objectives as basic features. In their view, there was room for private, public and cooperative enterprises in the mixed economy. The democratic structure of cooperative enterprise was especially propagated as a proper institution for the vertical integration of small private producers, like farmers and petty traders.

The organizational structure of the foreign owned estate sector, which was the backbone of the colonial economy, became a core issue in the political discussions. The senior

¹⁷ Between 1945 and 1949 the socialists Sjahrir and Sjariffuddin and vice-president Hatta were prime ministers of respectively three, two and two cabinets. The Sjahrir and Sjariffuddin cabinets resigned because they received no backing for the concessions they made in their negotiations with the Dutch Government. In the negotiations the cabinet claimed the status of an independent state, and wanted to find a political rather than a military solution. It was willing to make concessions to foreign capital in order to obtain international support for its course (Sutter 1959:431).

Indonesian personnel of the Japanese imposed institutions for foreign estates and industries managed these enterprises after the Japanese surrender. Indonesians took over the management positions in the offices and the estates of the six Japanese sugar companies. Dutch military actions caused many sugar mills to become self-supporting. Until mid-1947, the Dutch only controlled sugar factories in the Brantas Delta. The Indonesian government controlled all other mills, for which in May 1946 it founded the BPPGN (*Badan Penjelenggara Perusahaan Gula Negara*; State Sugar Enterprises Administration Board) in Solo, replacing all agencies administering sugar estates. It excluded only the mills which the Oei Tjong Ham Concern managed. The BPPGN was responsible for the management and administration of all sugar mills and for the marketing of their sugar. It had to operate the mills on a sound commercial basis while considering the welfare of its labourers and of the owners of the holdings they leased.¹⁸

Farmers' and labourers' organizations mushroomed throughout the archipelago, especially in regions where foreign capital was heavily present in the estate sector. At first the independence movement organized the farmers in one mass organization, in which the various religious and political parties cooperated. This organization, BTI (*Barisan Tani Indonesia*; Indonesian Farmers' Front), was founded in 1945 and had as its objective the improvement of the fortunes and status of the farmers in the social and economic sphere by freeing them from the influence of imperialism and feudalism, and by working for a socialist society. The organization recruited its leadership from different political backgrounds and spread especially fast in areas where the use of farmers' land alternated between smallholders food crops and estate cash crops.¹⁹

Dutch political hardliners, who obtained a dominant position in Dutch-Indonesian relations, wanted to enforce a military solution. In July 1947 they launched the first military action which brought much of the economically important areas in Java and Sumatra under Dutch control. Some weeks before the planned transfer of sovereignty to the Indonesian federation, the Netherlands again broke off negotiations with the Republic and launched a second military action, this time with the intention of restoring complete control over the Indonesian territories. This second action brought guerrilla warfare and economic scorched earth tactics on a larger scale than ever before into rural Java and Sumatra. The Indonesians reacted in a similar way to the Dutch in 1942, namely by destroying vital economic targets.

The actions damaged many sugar mills and the BPPGN lost most of the sugar mills it administered. The Dutch companies that regained control over their former mills in the Dutch occupied areas sent their own people in as managers, but the course of the revolution and the mill's dependence on the lease of smallholders' land, made it almost impossible for production to be restarted. Little smallholders' cane was produced and the mills faced

¹⁸ The Ministry of Agriculture appointed experts in sugar production, economics, finances and social affairs to BPPGN's board; for the last post it recruited a representative of the SBG (*Sarekat Buru Gula*; Sugar Workers Union). The BPPGN obtained its funds from the government but kept its finances separate from the state. It issued regulations for the purchase of commodities and equipment, and for production and personnel policies (Sutter 1959:396-399).

¹⁹ Compared to the labour organizations, the BTI had a moderate leadership. They supported the Sjahrir government and cooperated in supplying the urban areas with food. In Madiun the BTI leadership, in consultation with the sugar workers trade union, the resident, and the sugar factories engineered an agreement by which BTI members rented their land to the factories through a land lease contract drafted by the BTI. The leadership sought solutions to farmers' grievances and prevented conflicts within the independence movement (Sutter 1959:367).

hostilities from all sections of the population in their concession areas. The BPPGN experienced problems of another order in operating the remaining mills. The Dutch blockade of all Javanese harbours caused a lack of spare parts and lubricants and prevented any sugar from being exported. The BPPGN also had problems with theft on its estates and involved the regular defenders of the Republic in guarding the estates (Sutter 1959:784).

In the areas under Dutch occupation, the PKI formed the RTI (*Rukun Tani Indonesia*; Indonesian Peasants Association) as a resistance movement. After the first military action, the BTI leadership became increasingly radical, causing the muslim leaders in 1947 to leave the organization and join the STII (*Sarekat Tani Islam Indonesia*; Indonesian Islamic Farmers League) which was founded by the Masyumi in 1946. The moderate leaders of the PSI (*Partai Sosialis Indonesia*; Indonesian Socialist Party) and PNI remained in the BTI until the Madiun rebellion of 1948.²⁰ The PNI then organized *Petani* (*Persatuan Tani Nasional Indonesia*; Indonesian Nationalist Farmers Union). Similar polarizations occurred between the reformist and revolutionary factions of the labour organizations, in which the issue of returning foreign property to their former owners became a kind of catalyst (Sutter 1959:365-367,474).

The two military actions, which were to facilitate the restoration of alien property, increasingly polarized the moderate and radical political organizations within the independence movement, which had quite opposite interpretations of the basis of the struggle. Whereas the radicals interpreted it in the framework of the relation between foreign capital and the old imperialism, the moderates saw it as the relation between communism and a new variety of imperialism (Sutter 1959:583).

The Japanese occupation and the independence struggle were periods of transition. The interactions on the one hand between the radical and moderate political forces in Indonesia, and on the other between the doves and hardliners in Dutch politics led to further polarization of the estate sector in Indonesia. Although the political forces in and beyond the estates had changed, no consensus existed as yet about the agro-industrial linkages and organizational structures for the sugar industry.

3.4 Restoring Sugar Production and Outgrowers Experiments (1949-1957)

After the transfer of sovereignty, a start could be made with the rehabilitation of the sugar industry. The Indonesian government wanted the sugar factories to operate again and assisted the foreign companies in repairing and reopening their refineries, which they did from 1950 onwards. However, they faced a legion of problems. Investment capital was needed for the rehabilitation and reconstruction of the mills as well as working capital both for sugarcane production and operation of the sugar factory. The government channelled funds for the restoration of the mills through the Bureau for Financing Reconstruction of the Ministry of Finance. By 1950, 31 of the 84 sugar factories that were in operation on Java in 1939 were running again and the number increased as others were rehabilitated.

The mills also faced many problems in their hinterland. Many upland estates had problems

²⁰ At the Madiun incident the Trotskyist Murba party and the affiliated BBI labour movement, under the leadership of the charismatic Tan Malaka, revolted against the Sjahrir government. This syndical anarchist upheaval was suppressed by the national peoples army loyal to the president and the Sjahrir Government (Sutter 1959:366).

with squatters, and the sugar estates which rented land from peasants faced wilful destruction of their crops in the fields.

During the first full growing season after the transfer of sovereignty (1950/51) over one-fifth of the cane was stolen, destroyed, or burnt down. The following years approximately one-sixth of the crop was similarly destroyed, still a sizeable amount. Seventy five percent of the cane estate "Modjopanggung" was lost in this way in 1951 (Sutter 1959:704).

In the face of such continued destruction, the Indonesian government set up the *Dana Moles Tebu* (Sugar Molestation Fund), a mutual insurance body for mills (Sutter 1959:704).

Two issues were central in discussions on the organizational structure of the sugar industry. The first was the development of alternatives to the forced land lease system which would be acceptable to landowners. The second was the appropriate ownership and management structure for the sugar refineries, which foreign corporations mainly owned (Brown 1990:12).

Various sides called for outgrowers sugarcane production. Farmers associations of the different ideological streams also tried to cooperate in order to increase their influence on the transformation policies.²¹ The Department of Estates, which was led by Kasimo, a pioneer in outgrowers production systems, advocated new forms of cooperation on the basis of 'common interests' between the owners or managers of the mills, the farmer-landholders, labour, and state agencies. The young Indonesian government called for a system in which sugarcane was grown by smallholders and crushed by the large mills; they judged such a production system more in accordance with the spirit of the constitution of 1945 than the old estate system had been. From the foreign-owned sugar industry also came arguments for smallholders sugarcane production.²² All actors in the product-line, therefore, supported experiments with direct forms of sugarcane production by peasants (Trees Nio 1980:76-83; Sutter 1959:624, 705).

The communist parties, furthermore, called for the nationalization of all foreign owned estates and industries. They also called for an abolition of the conversion lands, so that farmers could no longer be forced to regularly lease their land to the estates. The moderate parties urged the government to promote the formation of joint ventures between foreign and indigenous capital for all new factories and for those not yet restored. In such ventures the Indonesians should control 51% of the shares (Sutter 1959:773).

²¹ The BTI, STII and Petani in 1949 jointly organized the All Indonesian Peasants' Conference. This Conference approved the participation of foreign capital in commercial agricultural production. However instead of cultivating, purchasing and processing agricultural products, they were asked to become partners in cooperatives, together with the landowners and the workers, in order to solve land conversion problems for squatters on estate holdings. It also demanded that estate waste land, government controlled estate land, and estates producing vital commercial agricultural commodities, had to be controlled by the government. Estates which were confiscated during the 'scorched earth' struggle, and which had been planted by the local population, had to be transferred to the peasants or their villages (Sutter 1959:670).

²² In 1946 the manager of the Kedawung sugar mill in Pasuruan suggested the promotion of outgrowers sugarcane farming alongside, and in some regions in place of the old estate-farmer relationship under which the farmers had resented being forced to lease their land and to work as cane workers. Smallholders sugarcane production would create a sounder relationship of mutual respect. The mills that bought the cane would have to make advances and the government would have to prevent injustices (Sutter 1959 623-625).

In the area of financing, the Java Bank, the BIN (*Bank Industri Negara*; State Industrial Bank),²³ and the major Dutch commercial banks provided credits to the sugar factories. The BIN became a major financier of the Indonesianization of foreign owned industry. In the Java sugar industry it became a major shareholder in five sugar mills; in 1952 BIN acquired four sugar mills from Dutch corporations that judged the future prospects for these mills to be less than inviting. For the reconstruction of a fifth mill, the ruined Kreet mill in the Malang district, the owner (N.V. Kian Gwan of the Oei Tjong Ham concern in Semarang) in 1954 formed a joined venture with BIN (Sutter 1959: 704-705). Indonesian institutions before the war owned three of the 84 sugar mills; in 1954 they owned twelve of the 54 mills in operation.

The rental of land from rural communities continued to be the bottleneck in the agro-industrial linkage. Rental by sugar mills was still regulated by the Minimum land rent ordinance of 1918. By this ordinance the central government authorized the local governments to set the minimum rental rate for cane land in their regency. After 1945, the farmers and their organizations demanded such high rents that the local governments could not assure the mills of sufficient cane land. To solve these problems the national government issued an Emergency Law no.6/1952, which moved the authority for setting land rental rates to the Ministry of the Interior, or the Ministry of Agrarian Affairs, with the approval of the Ministry of Agriculture. Many mills initially opposed smallholders sugarcane production, because they wanted to restore the *glebakan* tenure and the *reynoso* production systems. However, higher land rents for *sawah* holdings eroded their opposition (Sutter 1959: 751-755).

The central government's policies and regulations created room for regional initiatives and experiments with outgrowers sugarcane production. Between 1951 and 1957 the government wanted to increase the area of outgrowers cane for crystal sugar to 50.000 ha, as an alternative to the colonial land rent system and mill-based cane production.²⁴ The Ministry of Agriculture stimulated the formation of outgrowers committees (*Panitia tebu*), and supported institutions that had as their objective assisting these committees. The Yatra (*Yayasan Tebu Rakyat*; Foundation for smallholders cane) had offices in Solo and other typical outgrowers regions, where it arranged credit for fertilizer and cultivation expenses in order to prevent indebtedness and to increase the productivity of outgrowers cane.²⁵

²³ The Java Bank, a private corporation operating under government control, after 1949 continued its functions as central bank and as principal commercial bank. The bank statute gave the Indonesian government control over the Java Bank and it therefore gave higher priority to the Indonesianization of the institution than to its nationalization. In 1952 the government, using a threat of nationalization, bought all Java Bank shares and transformed it into Bank Indonesia. As central bank it gradually transferred its commercial functions to other state banks. In 1951 the government founded the *Bank Industri Negara* (BIN) as the reconstruction bank for the industrial sector. This bank played an important role in the finances of the sugar industry (Sutter 1959:782, 961-980).

²⁴ The Ministry of Agriculture revised the colonial regulations for outgrowers cane. It lifted the old restrictions on the purchase and milling of outgrowers cane for which the *opkoopverbod Ordinantie 1923 no 464* was still the legal frame.

²⁵ Pre-harvest credit (*overbruggings krediet*) was crucial for smallholders to produce cane, because cultivation expenses were high and the pre-harvest period was relative long. Often smallholders had to take out loans on their cane or sell it to money lenders at any point during the growing season until just before the harvest.

Between 1950 and 1954, the Department of Estates intervened more directly in the outgrowers-mill linkage, issuing a minimum price which mills had to pay for outgrowers cane. The national farmers' organization criticized this uniform pricing system, because it ignored the sugar content of the cane. As a solution the Department introduced a formula that incorporated the sugar content of the individual outgrowers' cane into the calculation of the prices the outgrowers received. The formula became known as the 'Kasimo formula'.²⁶

Concerning the ownership issue, the Indonesian government was bound by the Round Table Conference agreement of 1949 with the Netherlands, which among others things stipulated that alien property would be respected and provided with all necessary licenses and permits to operate. The Indonesian government only could prescribe conditions on the organization of sugarcane production and the ownership structure of the mill when alien mill owners wanted to sell their factory, or applied for credit from state banks.

For the early post-independence period a number of observations can be made. First, major changes occurred in the sociopolitical environment of the sugar industry. Nationalist, anti-imperialist and Islamic political organizations dominated the independence movement and the political arenas in and beyond the estates. The post-colonial government could not, and did not want to create conditions for capital accumulation by the foreign-owned sugar industry through cheap land and labour. It could not ignore rural resentments against coercive land tenure arrangements and opposition against external linkages, or the control of the most profitable activities, milling and trade, by foreign companies. Second, there was no consensus among the political parties and the strategic groups beyond the estates about the role of the state and the organizational structure of the estate sector and the sugar industry. There was a sort of consensus that the coercive land tenure arrangements had to be replaced by free outgrowers forms of cane production, but the strategic groups and the parties had distinct opinions about organizational structure and strategies for changing the ownership relations in the estate sector. Third, the post-colonial government wanted to promote outgrowers cane production for which it issued central regulations. However, it lacked both the finances and the regional initiative to take up these challenges.

3.5 State-owned Mills and Guided Economy (1958-1975)

In 1957 Ir. Sukarno, Indonesian's first president, introduced the concept of Guided Democracy, which included extensive political power for the president. He took this step, which was supported by the NASAKOM alliance²⁷ because experience with the multi-party system had been disappointing. The president dissolved the other political parties, such as the moderate Islamic Masyumi party and the PSI or socialist party. He tried to balance

²⁶ The Kasimo formula was: {actual sugar content (R) X average sugar price paid to the mill by the sugar export board (H) X 55%} (Soejono 1959:32). In theory this formula introduced a sugarcane price per individual cane producer, who should receive for 100 kg cane the value of 55% of the sugar produced from it. In practice the mills used the formula for all outgrowers' cane they processed during one crushing season, which was technically and administratively less complex. The average sugar content of outgrowers cane could only be calculated after the close of the milling season. The mills therefore made advance and final payments, when the cane was crushed and after the close of the crushing season.

²⁷ NASAKOM is the abbreviation of *Nasionalis*, *Agama* and *Kommunis* because the alliance was formed by the nationalist party, religious groups and the communist party.

demands for radical reforms by the communist party against demands for political and economic stability from the entrepreneurial groups and the army. During the late 1950s two competing fractions emerged in the nationalist party: the radical faction (PNI-Ali) and a more conservative faction (PNI-Hardi). Strategic groups like urban entrepreneurs, government officials, and army officials supported the conservative faction and the more horizontally-oriented trade union associations supported the radical faction, which in turn supported Sukarno's policies which tended to be sympathetic to those of the communist party.

Radical political parties and the affiliated farmers' and workers' associations continued to call for the nationalization of foreign owned estates. This demand was ignored by the Soekarno government until the West Irian crisis with the Netherlands in 1957. The West Irian Liberation Campaign and a domestic political crisis created an atmosphere in which the radical groups launched unofficial take-overs of large-scale Dutch businesses. The government tried to control these take-overs, but failed, although it placed all seized enterprises under government control. However, in December 1957 the Army gained control over the popular 'take-over' movement.²⁸ When the Dutch were not prepared to compromise on the West New Guinea issue in order to protect their economic interest, the government in October 1958 nationalized all Dutch property (Mackie 1962:340-345).

Various strategic groups tried to gain control over the seized Dutch businesses. The estate workers cooperation board formed committees to take over the estate properties and to manage them. The Ministry of Agriculture created public companies for the same purpose (*Perusahaan Perkebunan Negara*: State Estate Enterprise). Regional army commanders posted their officers as supervisors on the estates and their provincial headquarters. These companies promoted senior Indonesian employees to key positions as managers or technical inspectors, and attached army officers to regional estate offices. The latter were responsible for service activities such as trade and financial administration, or for handling problems of land, labour and infrastructure, which the managers could not solve and that required coordination with the district and provincial administration. In 1960 a new organizational structure was introduced in which the sugar mills were brought under a national public corporation for sugar factories, the BPU-PPN (*Badan Pimpinan Umum - Perusahaan Perkebunan Negara*; Central Management Board of State-owned Estate Enterprises). Within this corporation a central sugar marketing board was founded which managed the sugar trade centrally. Later this large national corporation was reorganized into several provincial or regional corporations, each owning and managing several sugar factories (Mackie 1962:342-345).

After the nationalization of the sugar mills, national policies for the sugar sector changed drastically. The policy makers, who had earlier supported the smallholders and labourers in their demands on the private sugar mills, now shifted their position and were committed to solve the problems in the sugar sector from the perspective of publicly-owned sugar mills. The highest priority was given to restoring sugar production which was most easily accomplished by restoring the old production regime. Only in the Kudus, Surakarta, Kediri and Malang districts did the mills continue their experiments with outgrowers sugarcane production (Brown 1990:13).

The performance of the sector did not improve after nationalization but decayed further,

²⁸ The regional army commanders were ordered to bring the Dutch enterprises under 'supervisory control.' Dutch managers had to sign documents that limited their rights over the estate and with the exception of essential 'experts,' all Dutch managers were asked to leave (Mackie 1962:344).

along with the overall economy. The Ministry of Agriculture and Agrarian Affairs annually fixed the guidelines for the land rents in consultation with the mill management and farmers' representatives. But the rental rates changed slower than the rate of inflation and farmers had strong arguments for refusing to rent their land or to sell their cane to the mill. They preferred to cultivate food crops or to process the cane into brown sugar.²⁹ Consequently the mills were operating below capacity and asked the assistance of the administrative or military authorities to force the landowners to lease them their land or the outgrowers to sell them their cane. The government issued central regulations making it possible to set minimum targets both for mill and outgrowers cane in the hinterland of mills. Sugar mills used these regulations to rescue the *glebakan* tenure and the *reynoso* production systems in the *sawah* areas in their hinterland. The regulations were not popular, but were considered necessary to temporarily release the mills from their cane shortages until more structural solutions could be developed (Brown 1990:14; Abdurrachman 1975).

In 1962 the government introduced share milling arrangements for both landowners and outgrowers. These share milling arrangements were to replace the old land lease system and the Kasimo formula, because hyper-inflation made landowners and outgrowers averse to cash payments for rents and cane.³⁰ To overcome this problem the mills introduced payments in natura. In 1963 the government issued two national decrees that introduced share milling arrangements for land lease and for outgrowers cane at a limited number of mills. The decree for the land lease arrangement prescribed that the lessors received 20-25% of the sugar produced from the cane grown on their land.³¹ The decree for outgrowers cane prescribed that the mills obtained 40% and the outgrowers 60% of the crystal sugar produced.³² To the latter decree two organizational models were attached. In the first model the outgrowers organization took care of the credit and financial administration for its members. The organization and the mill annually negotiated a milling contract in which they specified the organization and tariffs for the cane harvest, the system used to fix the sugar content, and the system of advance and final payments. In the second model the mill provided credit and harvest services directly to the outgrowers. The landowners, cane planters and the sugar traders liked both share-milling arrangements, but the mills owners disliked the 40-60% share

²⁹ De Vries (1968:xx) made an estimate of the sugar production in Java and Madura for the 1966/1967 season, calculating that brown sugar amounted to 34.6% of the crystal sugar production. Brown sugar production was concentrated in traditional smallholders cane areas like Malang, Kediri and Kudus.

³⁰ With the PMPA decree no 12 (*Peraturan Menteri Perkebunan Agraria*; Ministerial Decree Estate and Land Registry Affairs) issued in 1962, all sugar mills in Java were obliged to crush outgrowers cane when it was supplied to them and had to pay 4 kg of crystal sugar for every 100 kg of sugarcane.

³¹ In the first decree for the 1963 crushing season (SK 4/Ka/1963), the mill received 80% and the landowners 20% of the crystal sugar. A second decree (SK 19/Ka/1963) prescribed a 75 - 25% sharing. The lessor received an advance payment of 60% of the estimated yield and received the balance after the cane harvest. 2/3 of this sugar was bought by the sugar mill and paid for in cash, and for 1/3 the mill issued certificates that could be traded freely. The mill paid lessors maximally 75 kg of their sugar in natura (Mubyarto et al. 1968:107).

³² For the 1963/1964 season the Indonesian government gave the PG Kribet Baru (Malang) and the PG Modjosragen (Surakarta) the status of pilot projects for the Sk 3/Ka/1963 share milling arrangement. The mill made advance payments up to 60% of the expected sugar value in two terms; on signing the arrangement and during the *masa pancaklik* or period of food shortages (Mubyarto et al. 1968:121-122, 135-139).

arrangements, because their mills operated at a loss (Mubyarto et al. 1968:107-117).

Unilateral actions by the communists led to an increased polarization. The communist BTI peasants and the *Pemuda Rakyat* youth organizations tried to enforce the implementation of the crop sharing laws of 1959 and the Agrarian Law of 1960 through unilateral actions. They incited share croppers and landless labourers to defend their legal rights and unilaterally occupy landholdings that had to be redistributed when the Agrarian Law was implemented. In the campaign they criticized the strategies of Islamic landowners and their organizations. The Islamic leaders reacted to the communist treats and attacks by organizing counter-forces, mobilizing the Islamic mass organizations. In East Java the leaders of the *ulamas'* party, which was the most significant Moslem party there, transformed the party into a well-organized, well-financed, and aggressive front. This NU party tried to seize the initiative from the communists, exploiting religious sentiments for this purpose. As a result of this NU offensive, communist mass organizations started to lose members (Walkin 1969:822-847).

After the attempted communist coup and the military counter coup, Islamic leaders and the army seized the initiative, crushing the leftist leaders and their organizations. The indecisiveness of the bureaucracy caused Islamic leaders (*kyais* and *ulamas*) in some regions in East Java to escalate political and religious tensions into a bloodbath. The loyalties of regional army commanders also differed: some coordinated the crushing of the communists, while others remained inactive. Regional commanders organized "Crushing Action Commands" in which they involved all anti-communist political parties and mass movements at the district level.

While some of these actions were undertaken by the people alone, some were performed with the 'understanding' of the military, and some were carried out by the authorities themselves, particular the Army (Anonymous 1965:137).

The attempted communist coup, and the military reaction ultimately led to the succession of Sukarno's Old Order by Suharto's New Order regime.

The New Order regime, based on a bureaucratic-military oligarchy, had as first priority in their rural development strategy the achievement and maintenance of control over the villages and to prevent the resurgence of political mobilization. Their second priority was to promote agricultural growth in the food sector. The first priority was realized by a destruction of the communist party and its mass organizations. Further, the local government screened leaders of rural institutions on their political sympathies and gradually reorganized all rural organizations into government controlled ones. The New Order government replaced all horizontally-oriented associations, such as farmers, labourers, teachers, and women's groups, that were related to political parties, by monolithic organizations under state patronage (Hüsken and White 1989:249).

The New Order regime tried to restore the profits of the sugar mills by curtailing the rights of outgrowers and landowners. It replaced the 40-60% share milling arrangement for outgrowers cane by a 50-50% share system, and gave the provincial and district governments the task of assisting the mills in renting sugarcane land or in obtaining smallholders cane. The mills favoured a system in which rents were related to the price they received for their

sugar.³³ In 1967 the Indonesian government introduced such a system under which the lessors of fertile *sawah* received a basic rent for 12 months, based on the value of 2000 kg sugar, to which premiums were added when the mill occupied the land for a longer period of time (*premi serah tanah*, *premi produksi*, *uang kasepan* and *uang dongkelan*). Between 1971 and 1976 the government issued guidelines for minimum and maximum rents of sugarcane land. The land owners disliked this system after yields and prices for rice increased as a consequence of the Green Revolution. Sugarcane as a crop became less attractive because sugar yields declined and the state stabilized sugar prices in an attempt to control inflation.

Although these policies had a positive impact on sugarcane production, which grew steadily between 1968 and 1974, they did not lead to an improvement of the profitability of the state-owned sugar mills. The New Order regime concentrated its agricultural policies on the intensification of rice production, a crop that was politically more sensitive than sugarcane. In 1967 the government and the World Bank initiated an in-depth investigation into the structural problems of the sugar sector. Two British sugar industry consultants³⁴ carried out the study submitting their report in 1972. Brown (1990) summarized the findings the Indonesian sugar study as follows:

It proposed sweeping reforms to the industry ranging from rehabilitation and extension of the mills on Java, expansion of the area under cane by about 50% and further revision of management structures and practices, to modification of the land rental system to allow for longer lease periods, wider areas within which leasing could take place, and a fairer system of payments to the smallholders. But while encouraging the greater participation in the industry of smallholder producers, it argued against full reliance on them for cane production (Brown 1990: 17).

The Indonesian government decided to increase sugarcane production in Java and the Outer Islands and to rehabilitate and expand existing mills on Java. For this purpose it received financial assistance from the IDA and World Bank.

For the period of the guided economy radical changes occurred in the ownership and management structure of the sugar industry. First, the political forces in and beyond the sugar mills provoked a transfer of ownership and management from foreign-private capital to public-enterprises, and from foreign managers to Indonesian ones. Several strategic groups got involved in the sugar industry, including senior Indonesian mill officials, military

³³ Guidelines for cane-land rents issued by the government

Season	Minimum rent	Maximum rent	Specification
1968-1669		Rp 17.500	2000 kg sugar @ Rp 8.75
1969-1970		Rp 35.000	2000 kg sugar @ Rp 17.50
1971-1972	Rp 50.000	Rp 70.000	
1973-1974	Rp 80.000	Rp 90.000	
1975-1976	Rp 185.000	Rp 200.000	

These rents were for *sawah* land for a 16 months period and were based on land tenure arrangements for rice production in the rural communities. The mill paid these rents and premiums in cash (Abdurrahman 1975).

³⁴ The Indonesian sugar study was done by Brookers Agricultural and Technical Services Ltd., and Tate and Lyle Technical Service Ltd., in association with the Economist Intelligence Unit.

officials, local administration, labour and farmer associations, and officials from the Ministry of Agriculture and the Ministry of Finance. Second, these changes in the ownership and management structure only led to marginal changes in agro-industrial linkages. New share milling arrangements were introduced for land lessors and outgrowers. The majority of the mills continued the old estate regime and the landowners continued to be pressured to lease their *sawah* holdings to them. Only in the sugar regions with outgrowers cane production did the mills continue experimenting with outgrowers models, in which the mills had direct credit and marketing relations with the outgrowers, or where the outgrowers organizations operated as intermediate agents between the outgrowers and the mills. Third, the New Order government introduced a monolithic government structure which de-politicized the social relations of production in the public-owned sugar mills and in the agrarian societies of their hinterland.

3.6 New Order Regime: Multi-partite Contract System (1976-1992)

In 1975, on the basis of the Indonesian sugar study, the president of the Indonesia decided to transform the system of mill managed sugarcane production in stages into an outgrowers system. This transformation was to take place through the TRI (*Tebu Rakyat Intensifikasi*; Outgrowers Sugarcane Intensification) programme, the ultimate objectives of which were (a) to increase sugar production; (b) to abolish the coercive production system and decentralize decision making on optimal land-use to the farmers themselves; and (c) to increase productivity in smallholder sugar cane production. The TRI programme combined three components: the organizational structure of the outgrowers model and its integration with sugar factories, the intensification program for smallholders cane production, and the price and market policies for the sugar sector (Mubyarto 1977:37-39).

This TRI programme provided an institutional structure for linking 'smallholders' cane production with sugar mills. Mill managed sugarcane production had to be fully replaced by outgrowers managed cane production, and the outgrowers had to organize themselves in TRI farmers groups at the village level and become members of cooperatives at the sub-district level. The BRI bank provided the cooperative with credit funds for the intensification of outgrowers cane production. The sugar mill and the cooperatives organized the harvest and the supply of cane to the mills. Outgrowers cane had to be crushed through share milling contracts signed between the cooperative and the mill. BULOG (*Badan Urusan Logistik*: National Logistics Agency) had the monopoly on sugar trade and had to buy the mill's and smallholder's sugar share at prices fixed by the central government.

The mills, local government agencies, and the cooperatives became responsible for providing technical and administrative guidance to the outgrowers and their organizations. For that purpose investments had to be made by the mills in extension and field staff, and competition among mills in each others procurement areas had to be prevented. For this reason the government assigned a procurement area to each mill, in which it could invest in the expansion of outgrowers cane area and in boosting its productivity.³⁵ The mills became the field coordinators and the provincial and district governments were responsible for the

³⁵ In 1977 the central government introduced a strict system of *rayonisasi* of procurement areas (SK Mentan 532/IX/77), which specified that mills were not allowed to receive or to purchase cane from each others' procurement areas without the approval of the local government and the mill managers and owners.

planning and coordination of the TRI program.

For this purpose, the government formed coordination boards at all administrative levels above the village. The BP Bimas (*Badan Pengendalian Bimas*: Bimas Management Board) is responsible for the coordination of the government agencies involved at the national level. It is chaired by the Minister of Agriculture, and 13 departments and agencies are involved in the board meetings. A conference is organized annually to evaluate the operation of the TRI programme. Controversial issues and proposals are presented to the president to decide upon. At the provincial and district levels the coordination boards are the Bimas Advisory Board (*Satuan Pembinaan Bimas* or Satpembimas) and the Bimas Executive Board (*Satuan Pelaksanaan Bimas* or Satpelbimas), which are chaired respectively by the vice-governor for economic affairs and the *bupati* or district head. In both boards more than 20 institutions are involved in coordinating the implementation of the TRI programme. The Advisory Board has to coordinate the programme at the provincial level and deal with problems involving more than one district. The Executive Board has the function to adjust the TRI policies to the specific conditions in the district (Soemardjan 1983:19-50).

From 1977 onwards it became official government policy to expand sugarcane production into the dry land areas and to allow rice mono-culture in *sawah* areas. The sub-district government set the targets for each village and TRI group, and when mills feared cane shortages, landowners could still be forced to rent their land to the chairmen of TRI groups or directly to the mills.³⁶ One consequence was a sharp decline of the sugar produced per hectare. A common explanation for this decline was the abolition of the reynoso production system, and its replacement by ratoon systems. Linked to this change in systems is the shift of cane production from the *sawah* to the *tegal* zone. Farmers reserved their best *sawah* for rice and allocated *sawah* holdings with poor irrigation and especially *tegal* holdings to grow cane (Mackie and O'Malley 1988: 737-740).

During the early 1980s conflicts arose about the preferential treatment given by the cooperatives and the mills to TRB over TRIK cane.³⁷ TRB traders and commercial farmers bribed mill officials to have their cane crushed when the sugar content was high.³⁸ As a consequence the crushing of TRIK cane stagnated and TRIK cane owners sold their cane to traders and failed to repay the TRI credits. The cooperatives claimed to be in a better position to defend the interests of smallholders against the speculations of the TRB cane traders. In 1981 the Minister of Agriculture gave them the responsibility of organizing the cane harvest and supplying the cane to the mill. Then, however, the TRB traders and

³⁶ When the mills needed the smallholders' land for cane production during the transitional phase, land owners could be pressured to put their holdings under the management of their TRI group's chairman. The mills were allowed to rent *sawah* for the propagation of cuttings for one season and *tegal* for the expansion of cane production for two successive seasons.

³⁷ In this study a distinction is made between TRI and TRB cane. The owner of TRI or TRIK (*Tebu Rakyat Intensifikasi Kredit*) cane has obtained TRI credit for its cultivation and therefore had to obey the marketing regulations connected with this credit. For TRB (*Tebu Rakyat Bebas*) or TRIN (*Tebu Rakyat Intensifikasi Non-kredit*) cane growers either did not obtain TRI credit funds or received them but ignored the marketing regulations. The mills introduced the distinction TRB and TRIN cane to indicate their claim on TRIN cane for crushing.

³⁸ In 1981 and 1982 crushing capacities in Java were limited because 27 of the 57 sugar mills had to be rehabilitated and expanded. During the 1983 season the situation worsened because cane yields were high and the cane supply stagnated due to a very short dry season.

entrepreneurs also bribed the cooperative officials to have their cane processed during the peak of the crushing season. The daily newspaper *Merdeka* of 10-3-1985 reported that the Minister of Cooperatives lobbied for all TRB cane to be reclassified as TRIK cane and the Ministry of Agriculture announced that preferential treatment of TRB cane would no longer be tolerated and warned of disciplinary steps for officials who were caught giving such treatment to TRB cane owners.

The Soemardjan report (1983) paid close attention to the negative impact of bureaucratic regulations on the efficiency of the outgrowers system. Officials of the cooperatives, local government, and TRI groups controlled the administration and disbursement of TRI credit, the organization of cane cutting, the delivery of cane to the mill, and the financial administration. This led to stagnation in the implementation, and a lack of accessibility, especially for cane producers with small holdings. In March 1985 president Soeharto ordered the deregulation of procedures in the sugar industry. The role and responsibilities of the mills, cooperatives, banks and local government were further specified. The BRI bank felt it had sufficient support to impose stricter criteria for the repayment of credit by the cooperatives if they wished to obtain new TRI credit.

Price and marketing policies also led to conflicts between the different strategic groups. BULOG had the task of stabilizing sugar prices at a level reasonable for both consumers and producers. From 1976 onwards the government annually issued producers' sugar prices (*harga provenu*) for which BULOG bought and the retail price (*harga eceran*) for which BULOG sold sugar (Mubyarto and Daryanti 1991:95-102).³⁹ BULOG bought sugar from the mills and outgrowers and distributed it to the retail traders. In case of shortages, BULOG imported sugar from the international markets. In Mubyarto's opinion, the market and price policies were effective and led to a stable sugar price. This worked to the advantage of the consumers, but was disadvantageous to the mills, private traders, and the cane producers.

In 1982 the Indonesian government founded the national sugar council or DGI (*Dewan Gula Indonesia*: National Sugar Council) to serve as a national policy-making body in which all important agencies of the sector are represented.⁴⁰ In decisions about the marketing and price policies, three matters are considered in relation to the outgrowers incomes: the producers' sugar and molasses prices, the division of the added value of sugar and by-products between outgrowers and the mills, and the taxes and levy policies. On the basis of the recommendations of the council, the Indonesian government annually decides on the policies, and when the council cannot reach a consensus, the issues and the arguments are presented to the president for his final decision (Koestono 1991b:23-24).

For the sugar price standard the government strikes a balance between the international sugar prices and a rice/sugar price ratio. Before 1985 the Indonesian government used the international sugar price as a standard and used this to justify lack of increase in price to

³⁹ BULOG paid the mills and the outgrowers' cooperatives the sugar producers price, added to it levies, packing, storage, interest and insurance expanses to obtain the ex-mill sugar price. The retail prices are set by market mechanisms and differences between ex-mill and retail prices are caused by transport costs, shrinkage, and profits (Koestono 1991b: 19-22).

⁴⁰ The council, chaired by the Minister of Agriculture, is directly responsible to the president. Besides the ministers of Industry, Cooperatives and a junior minister of Agriculture, the members exist of seven Director Generals (Estate Crops, Monetary Affairs, Machineries and Basic Metal Industry, Agribusiness Cooperatives, Labour Care, Domestic Trade), three heads of agencies (Investment Board, Bank Indonesia and BULOG), and a representative of the Indonesian Sugar Association (private mills).

correct an average annual inflation rate of about 9%. When the outgrowers' cane area declined, however, the government adapted another standard. Since rice and cane are competitive crops, the government applied the price ratio between rice and sugar as a standard. This ratio is fixed in a way that makes rice production more lucrative in the irrigated low-land areas and cane production in the poorly irrigated and dry-land areas. Between 1983 and 1988 the government tried to raise the rice/sugar price ratio to the standard used during the colonial period, namely 1:2.4 (Koestono 1991a: 14).

In the share milling arrangements the outgrowers' share is differentiated in relation to the sugar content range, and the shares have gradually increased. Between 1976 and 1987 the outgrowers' share of the sugar was 55% of the sugar value when the yields were lower than 8 kg per quintal cane. The share increased when the sugar content fell in a higher range. The national trend, however, was for the sugar content of the cane to decline and it seldom came above 8%. In 1987 the government increased the outgrowers shares for all sugar content ranges.⁴¹ From 1975 on the outgrowers received 1% of their sugar share in natura which was doubled to 2% in 1983. From 1987 on the outgrowers received the value of 1,5 kg molasses per 100 kg sugarcane which was later increased to 60% of the molasses.

In 1968 Mubyarto et al. stated that the taxes and levies that the government collected from the sugar sector, in the tradition of its colonial predecessor, were too high. In 1966 the mill and outgrowers received only 27% of the price paid by the retailers. The government first reduced the levies, which Mubyarto (1969:118) claims seldom reached the national treasury. In 1983 the levies and taxes still accounted for respectively 10% and 5.5% of the retail price, but the producers received 64.5%. Several strategic groups in the sector, such as the scientists, the mill managers, the outgrowers, the cane traders, and the consumers, supported the elimination of the levies. Agencies like the Ministry of Finance, Cooperatives and BULOG opposed these changes, however.⁴²

Negotiations between the various agencies and strategic groups were complex and alliances changed with each proposal, as the following case illustrates. In 1983 the cooperatives urged

⁴¹ Outgrowers' share of the sugar for different sugar content rates before and after 1986.

Sugar content 100 kg cane	< 8 kg	8-10 kg	10-12 kg	> 12 kg
Outgrowers' share 1976-1986	55%	60%	65%	70%
Outgrowers' share 1986-1994	62%	65%	67%	72%

⁴² Taxes and levies in relation to producers, ex-mill and retailers price for some seasons.

	1966 %	1982 %	1991 %
Producers price	Rp 465 27	Rp 35.000 64.5	Rp 70.800 64.5
Taxes	Rp 374 21.7	Rp 5.445 10	Rp 7.150 6.5
Levies	Rp 455 26.4	Rp 3.027 5.5	Rp 1.350 1.2
Ex-mill price	Rp 1.294 75	Rp 45.600 84	Rp 90.220 82
Retailers price	Rp 1.725 100	Rp 54.300 100	Rp 110.000 100

Source : Mubyarto et al. 1968:85, Soemardjan 1983:85 and Kompas 8-5-1991

the Sugar Council to increase the producers sugar price. The Parliament's commission VII⁴³ suggested the government to cancel the excise tax in order to increase the price received by the outgrowers and the mills, without changing the consumer price. The Minister of Cooperative Affairs suggested financing the price increase by increasing the outgrowers share vis-a-vis the mills' share. The government decided not to increase the price, because the national sugar price was already twice as high as that on the world market. When in 1983 many cane producers intended to shift to food crop production, the Sugar Council suggested a price increase.⁴⁴ During the crushing season the government decided on a package making sugarcane production more attractive to cane producers and the mills. The newspaper *Pelita* reported on June the 28th that the government raised the price which outgrowers received by Rp 1.250 per 100 kg sugar and paid this hike by reducing the cooperatives' commissions.

In 1983, according to the Ministry of Agriculture, many state-owned mills had incurred large losses: PTP XIV Cirebon Rp 20,121 billion, PTP XX Surabaya Rp 5.886 billion. Already in 1975, agricultural economists criticized the fact that the financial reports of state-owned mills remained secret, which prevented any public control over the management of these firms. In the Indonesian sugar industry circles it also is a public secret that in 1987 the Head of State was very displeased with the continued losses by the state-owned sugar mills, and that he personally decided to move the management of the PTP XIV mills in Cirebon, West Java from the Ministry of Agriculture to a management company under the Ministry of Finance.

In 1994 the World Bank estimated that the Indonesian sugar consumers subsidized the national sugar production by 30%. Annually BULOG imports approximately 300,000 tons of sugar and sets the retail prices. Over the past 30 years these prices have ranged from 30% to 100% above the world market price. The World Bank therefore recommends an elimination of the sugar price controls because especially the food processing industries and the poorer households would benefit from such a policy.⁴⁵ Javanese smallholders would switch to more labour intensive and remunerative crops, and lower prices would reduce the concentration of income in the hands of large farm owners (World Bank 1994:71).

The World Bank also argues for reforms in the state-owned sugar conglomerate. The state should gradually withdraw from direct involvement in production and should concentrate its limited financial and managerial capacities in its area of comparative advantage, the provision of public goods. For the sugar sector the government should provide an appropriate policy and regulatory environment and the mills should be managed in a competitive environment in order to increase efficiency and productivity. This privatization of the sugar industry should be realized through the capital and security markets (World Bank 1994:144).

⁴³ The vice-chairman of the parliamentary committee responsible for agriculture was Imam Churmen, who has excellent contacts with sugarcane entrepreneurs in East Java. In the media he is the only national politician who is reported to speak critically on government sugar policies, and who represents the sugarcane entrepreneurs' opinions at the national level.

⁴⁴ The research team of the Social Science Foundation, under chairmanship of Prof. Selo Soemardjan, relayed the cane producers' grievances to the sugar policy makers at the national level (Soemardjan 1983).

⁴⁵ Koestono (1991b:24) uses a per capita sugar consumption of 12.8 kg in 1990. In case the consumers' sugar price would have been 25% lower, this would resulted in extra annual purchase power of Rp 3520 per consumer in 1991.

2.7 Conclusions

In this final section the changes in the linkages and organizational structure of the Javanese sugar industry through the different political periods will be summarized. The nature of the agro-industrial linkage in the Javanese sugar industry changed drastically from a plantation system to an outgrowers one. However, this change occurred quite recently, in 1976, and the World Bank assisted the Indonesian government in preparing the transition.

The plantation structure was originally introduced by the colonial state, which controlled the sugar industry as a revenue generating strategy. It imposed its sugarcane production system on rice growing communities, but kept the management in its own hands. It contracted the sugar production out to private entrepreneurs, but obtained the benefits by exporting the sugar itself. The colonial government integrated the sugarcane plantation system into the rice producing family farms in communities that cultivated the irrigated low lands. In the face of economic and political force, the local communities had to provide the mills with cheap land and labour, and had to intensify their rice production to compensate for their lost usufruct rights.

Political parties' ideas about the role of the public and private sectors played an important role in the transformation of the Javanese sugar industry. The increased influence in Dutch politics of liberal ideas about the relation between the private and public sector also had repercussions for the colonial state, which then transferred the responsibility for sugarcane production and sugar export to private entrepreneurs who operated the sugar mills. The state concentrated on the provision of public goods, such as infra structure and education, and on institutional developments for social and legal services, for which it taxed the private sector.

The crisis in the international sugar market and the development of sugar processing technology made large investments inevitable. These were beyond the financial capacities of individual entrepreneurs. As a consequence a wave of horizontal concentration rolled through the Javanese sugar industry, resulting in the control of the plantation sector by multi-national corporations, who employed foreigners as senior staff.

De-colonization led to another configuration of political forces in and beyond the plantation systems. The nationalist, Islamic and anti-imperialist political parties had distinct ideas about the organization of the economy and the post-independence state. These ideas again had repercussions for the sugar industry. All parties wanted an Indonesianization of the foreign-owned business sector. Political manoeuvres led to the nationalization of this sector, which was brought under the control of public-enterprises, increasing the influence of the military and government officials in the sugar industry. This change in the ownership and management structure had few consequences for the agro-industrial linkages at the local level. With the exception of some districts, where farmers had involved themselves in sugarcane production, mill-managed sugarcane production on *sawah* land rented from peasants continued to be the dominant form. The post-independence state now controlled the vertically integrated sugar industry and justified the coercive land tenure arrangements by referring to the national interests.

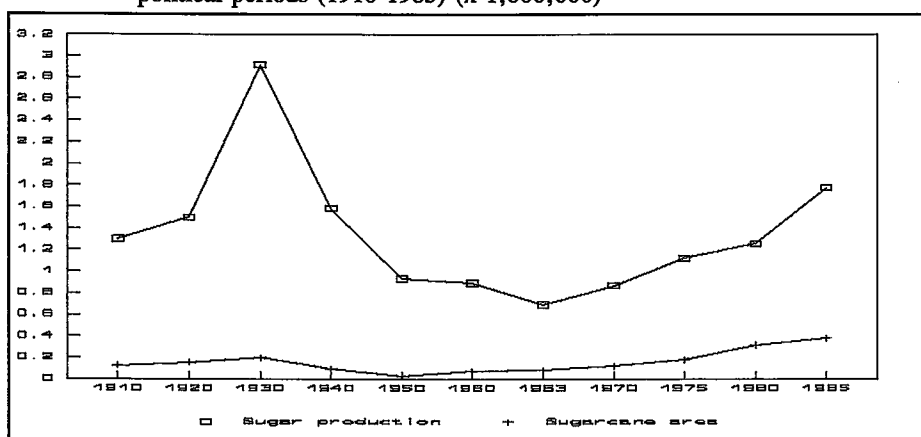
The transnational agribusiness and international financial agencies assisted the New Order government with advice and loans to replace the estate form of sugarcane production by a model of multi-partite contract farming. In this way the coercive land tenure arrangements could be replaced by a free allocation of the land by its owners. Macro-economic and price policies for agricultural products should provide the economic incentives for landowners with *tegal* and poorly irrigated *sawah* holdings to allocate their land to cane production. The government prescribes the institutional structure in which the outgrowers have to cooperate

with the cooperative, the sugar mills, and the banks, all coordinated by the government at various administrative levels.

The involvement of the state bureaucracy in the multipartite contract system has led to demands for deregulation from various sides. In the implementation of the contract system at the district level, the officials of the local government, the sugar mills, and the cooperative occupy a central position. They decide on the allocation of credit funds, and the harvest and supply of outgrowers cane to the mills. The outgrowers increasingly complain about the decisions of officials that affect them negatively, but the officials also control the rural institutions that could expose the complaints.

Figure 3.1 shows the economic implications of these changes in linkages and institutional structures. The great economic depression of the 1930s introduced a crisis in the sugar industry which continued until the early 1970s. Only after the introduction of the model of multi-partite contract farming did the sugar production recover. However, in order to reach that growth in production the sugar mills needed a much larger cane area than they did during the colonial period. On the one hand this was caused by a shift of cane production from the highly productive *sawah* areas to the more marginal *tegal* areas, but on the other hand also by a decline of area of mill managed reynoso cane and an increase of outgrowers managed ratoon cane.

Figure 3.1 National sugar production (tons) and sugarcane area (ha) during various political periods (1910-1985) (x 1,000,000)



Source: Brown 1990 and P3GI 1960-1990

In the local level studies these technical changes will be analyzed (Chapter 5, 6 and 7). Before doing this, however, I will first discuss the interrelation between the national policies and regulations and the regional initiatives of actors in Malang's sugar industry.

4 REGIONAL SETTING AND TRANSFORMATION OF THE MALANG SUGAR INDUSTRY

This chapter introduces the regional context of this study. The presentation covers the socio-geographic and economic development of the Malang region, which was a frontier region during the nineteenth century. The region developed into a leading agricultural area during the twentieth century, and in the process the city of Malang became the centre of the colonial estate sector for East Java. Rubber, coffee and sugar, the staple cash crops during the colonial period, were mainly produced by foreign-owned estate enterprises. After independence the estate sector collapsed, and outgrowers forms of cash crop production became dominant, growing food crops, sugarcane and coffee. The city of Malang also developed into the second largest city in East Java.

In this chapter then, the historical development of the sugar industry in the Malang district is discussed in detail. In the introduction it was shown that internal linkages for brown sugar production and traders networks for cane cuttings production already existed in the Malang district when the colonial government introduced external linkages for refined sugar production. The involvement of an influential group of indigenous cane growers and traders, however, forced the sugar mills to develop outgrowers forms of cane production in the district. Brown sugar production gradually gave way to refined sugar and the Malang district became a leading region for outgrowers sugarcane, particularly in the dry-land zone.

The first part of this chapter focuses on the socio-geographic and economic developments in the Malang district, and also deals briefly with contemporary economic conditions in the region. In the second and third sections, the historical backgrounds of the Malang sugar industry are discussed. This historical presentation is divided into a section on the colonial period and another on the post-independence era. In the final section general conclusions are drawn about agro-industrial linkages, the physical and socio-political environment, and the district's sugar industry.

4.1 Socio-geographical Context

Around 1743 the Dutch colonial government succeeded in imposing their rule on the local potentates in the Pasuruan area. In 1706 the Dutch had started a campaign to create the Pasuruan Residency, extending from the Strait of Madura to the Indian Ocean and bounded by the Surabaya, Kediri and Probolinggo Residencies. The Pasuruan Residency covered the Pasuruan, Bangil and Malang districts, the latter being the largest in size, but having the lowest population density. The Dutch imposed their rule on the regency in 1772, when the followers of a rival to the Pasuruan court, prince Surapati, had settled in the area (Elson 1984:1-2).

The district covers an area of about 4,778 km², which can be divided geographically in

five agro-ecological zones.¹ A high volcanic zone covers the upper-slopes of the Semeru, Arjuno, and Kawi volcanic formations on the north-eastern and north-western boundaries of the district. The medium- and low-volcanic zones cover the lower reaches of these volcanic formations. The alluvial zone covers the plain between the volcanos, formed by the Brantas and Lesti river basins. The fifth zone is the limestone area between the Lesti and Brantas river basins and the Indian Ocean (Kepas 1985:4-3).

The northern areas of the Malang district were already settled before the Mataram era (1600-1700). The Kingdom of Kediri (1050-1222) extended its political control over East Java, Bali, southwest Kalimantan and southern Sulawesi. In the first quarter of the thirteenth century, Kediri was at the zenith of its political and economic power. Later rival dynasties successfully attacked and established themselves as ruling dynasties, which all had their centre in East Java; the Singosari dynasty (1222-1291) and Modjopait (1293-about 1500). The Singosari dynasty had its centre in the Malang district, and its king, Kertanagara (1268-1292), promoted a syncretic cult of Saivism and Buddhism; several historical temples from this period still can be found around the Malang township (Burger 1975a:7-15).

Around 1830 refugees settled in the alluvial area south of the present township of Malang. These refugees, who had escaped from Central Java, fleeing the Diponegoro war (1825-1830)², or the Cultivation System in the densely populated areas of Java, moved into the forested areas south of Malang (Elson 1984:59).³ The population there started to increase sharply from the 1830s onwards. After clearing the forests, these settlers mainly practised dry-land agriculture because of limited opportunities for making *sawah*; longer-established communities already occupied the areas with potential for wet rice cultivation.⁴

Between 1875 and 1890 the colonial government issued lease contracts to European and Chinese planters for estates on the waste lands in the southern and southeastern area of the Malang district. On these estates, which varied in size from 100 to 500 ha, the owners produced coffee as well as other estate crops like rubber, tea, cinchona and cacao. The soils and rainfall did suit coffee in all areas, for instance, rubber did better in the limestone areas

¹ In the introduction I mentioned the six agro-ecological zones which the Kepas project (1985) distinguished for the Malang district. For this classification Kepas used four criteria namely: altitude, climate, soil texture, and dominant slope. For the volcanic areas the Kepas project distinguished three zones on basis of altitude, to which climatical differences are also related: high (> 1500 m), medium (700-1500 m), and low (< 700 m). For the low-land areas (< 500 m) the project distinguished three zones on basis of the dominant soil texture: alluvial, limestone, and grumusol (Kepas 1985:4-5).

² A dispute between two princes and the Dutch colonial government about the rights of succession to the throne of the Yogyakarta royal house, developed into a five-year guerilla war, known as the Java war or the Diponegoro revolt (1825-1830). Diponegoro, a powerful prince with aspirations to and promises of the throne, led a *jihad* or Muslim holy war against the Dutch, who recognized his two year old cousin as sultan. The Javanese people had both financial and religious grievances against the colonial government, as a result of which many peasants joined the prince in the *jihad*. Many of these later fled to the frontier regions in East Java.

³ A survey done in 1860 on the land tenure situation in the Malang district showed that many villages were founded at the beginning of the nineteenth century by settlers from Central Java and the area west of Malang (Eindresumee 1880).

⁴ Elson (1984: 6, 19) mentions that around 1830 communities near Malang township had already constructed some large irrigation works, and that the *sawah* areal in the district increased from 2.487 ha in 1815 to 4.780 ha in 1828.

of southern Malang which has erratic rainfall. The planters employed agricultural labourers who came from the relatively infertile island of Madura and from east Central Java. These migrants looked for employment on the estates and with native entrepreneurs, but had as a long-term objective establishing themselves as self-employed farmers. Between 1890 and 1900 the highest population increase recorded in the Pasuruan residency was in East and West Malang (Elson 1984:166-167).

The long established communities in the northern area occupied the low-volcanic and alluvial zones, where ecological conditions enabled them to mainly practice paddy cultivation. The more recent communities therefore moved into the central alluvial zone, where ecological conditions were favourable for dry-land agriculture. The estates and a few Javanese communities occupying the southern limestone areas respectively cultivated food and cash crops.

Land tenure practices in these different zones varied, both along Javanese and Madurese ethnic lines and according to the kind of soil under discussion. The colonial government, however, tried to systematize and redefine the traditional systems of land tenure for the *sawah* so that it met the needs of the sugar industry (Kano 1977:15). In the *tegal* areas the communities applied individual (*yasani*) tenure systems, which the village elites were determined to maintain. The colonial government in the end went along with them, but used a long-term lease system for foreign-owned estates in the frontier areas in the late 1880s. These three tenure systems will be discussed in the following paragraphs.

Sawah holdings were mainly communally owned and traditional supra-local leaders exercised some rights over the utilization of the land and its products. In the Malang district these leaders were the regent and his officials.⁵ The village heads allocated the usufruct right for *sawah* holdings to the community's households on a fixed shares basis. This differed with other regions in East Java where a new distribution was regularly made.⁶ These households were obligated to pay taxes, to deliver rice, and to perform *corvee* labour services for the maintenance of roads, drains, rivers and irrigation canals. Only descendants of the village founders obtained usufruct rights to the *gogol*, as long as they paid their taxes and performed the related labour services. The sizes of the *sawah* holdings varied from 0.50 to 1.50 ha, depending on the community's *sawah* area and the number of *gogol* holders. Elson (1984:41-44) states that the colonial government made the communities' cultivation rights more secure by curtailing the power of the indigenous bureaucracy. At the same time, it made the communal tenure system more 'flexible' or adaptable to the economic and administrative pressure of sugarcane production.

In the *tegal* areas the village elites used tenancy systems, in which the hereditary rights of tenure of the cultivators were respected. Elson (1984:20) argues that the leaders of the

⁵ In the Pasuruan Residency the Dutch civil service ruled the indigenous population through the local aristocracy, which was headed by the regent (*bupati*). These regents were responsible for the collection of Dutch imposed taxes from the villagers, consisting of agricultural products in kind and *corvee* labour, of which they received a large share (Boomgaard 1989:4-5).

⁶ Kano (1977:15) shows that in the Malang district the distribution was fixed and that in other regions variations existed in the length of the tenure and the methods of redistribution. Elson (1984:218) writes that between 1912 and 1927 individualized tenure systems increased in the Pasuruan Regency. In 1927 79% of the villages in the Malang district combined the communal and individual tenure systems and 20.7% used only the latter form. Rotation of the usufruct rights of communally owned land among the village members was only practiced in 0.2% of the villages.

settlers opening the frontier area in South Malang preferred heritable individual holdings. As religious leaders, these persons claimed a relatively large amount of autonomy from the supra-local *priyayi* elites.⁷ They established powerful positions in the communities and claimed for themselves larger farm holdings than were allotted to the common villagers.

Peace and order, then, served the interests both of peasants as a whole, in the sense of providing them with a stable and more prosperous existence, and of their village leaders, who began to cement themselves firmly in positions of formal supremacy and to lay the basis for the consolidation of social inequality within the village community (Elson 1984:20).

When conflicts arose between rival leaders in the communities, there was always the possibility for one of them to move further into the frontier area. The colonial government claimed uncultivated or waste land as state land and issued lease contracts for 75 years to foreign planters. For estate workers these planters relied mainly on Madurese migrants, who moved into the estate areas to work as farmhands but intended to later become independent farmers along the borders of the estates.

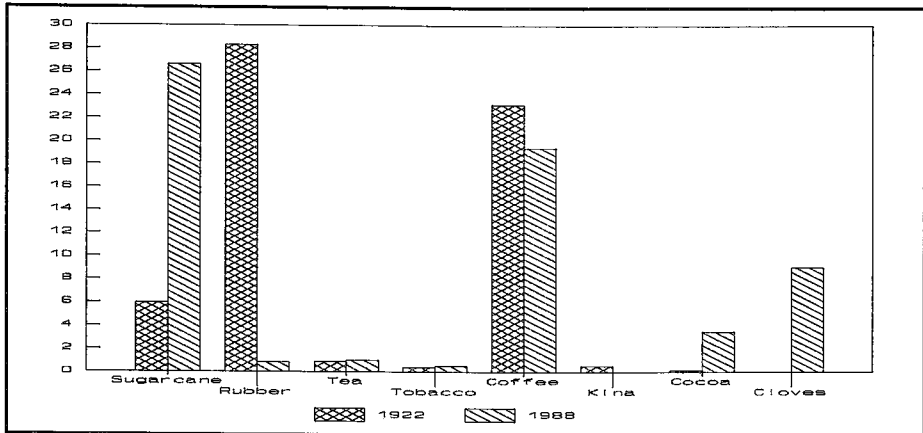
The social consequences of the land tenure systems were as follows. The burdens of the *gogolan* tenure system led to a more equal distribution of the *sawah* land resources and greater flexibility in the interest of the colonial sugar industry. The *yasani* system, on the other hand, which was applied on the basis of the power relations in the frontier area, contributed to more economic and social inequality within these village communities. Finally, the long-term leaseholds in the estate areas introduced mixed migrant communities faced with deep inequalities between the foreign management staff and the indigenous estate workers.

During the second half of the nineteenth century the Malang district developed into a leading agricultural area. Indigenous farmers planted rice, maize and sugarcane in the low-volcanic and alluvial zones, and in some areas also cultivated coffee and tobacco. During the Cultivation System period, Dutch administrators introduced colonial coffee production in the Malang district. In this, members of the Javanese communities had to plant large areas on the slopes of the Semeru, Arjuno and Kawi volcanic formations with coffee. In 1830 the Resident of Pasuruan proposed to Governor General Van den Bosch to exclude the Malang district from the government sugar cultivation system because:

the present population is already too small for the existing coffee trees and cannot be burdened with anything else for the sake of the government (Elson 1984:64-65 fn).

The Malang district gained a national reputation as an agricultural region. In 1922 coffee production in the district stood at 7,198 tons, (20% of the total coffee production in Java and Madura) in which foreign estates, government estates and local farmers were involved. The district also occupied a leading position in the production of rubber; in 1922 the estates in South Malang produced 5,672 tons, (24% of the total production on Java and Madura) (Landbouwatlas van Java en Madura 1926:159).

⁷ Two factors probably contributed to this development. Elson (1984:20) mentioned as one factor the land rent scheme introduced by Raffles, which abolished the privileges and independence of the indigenous ruling elites. A second factor could have been that the leaders of the refugees had religious and political arguments for refusing the authority of regents who cooperated with the colonial authorities.

Figure 4.1 Major cash crops produced in the Malang district in 1922 and 1988 (in 1000 ha)

Source: Landbouwatlas van Java en Madura 1926:59; DPPJT 1988:89

Between 1890 and 1920 Malang township became the centre of the colonial estate sector in East Java. The city of Malang was an attractive location for settlement for European and Chinese managers, entrepreneurs and traders. It was centrally located to the estates opened in the Kediri and Pasuruan Regencies and had a pleasant climate. The foreigners created employment opportunities in their enterprises (i.g. coffee, tobacco and sugar) and in their households. Many migrants from Central Java, Madura and the Madiun region moved to the district and city of Malang.⁸ The city grew faster than all other towns in East Java and became second in size after Surabaya, the capital.

This particular development pattern of Malang city also resulted in a distinctive socio-political environment.

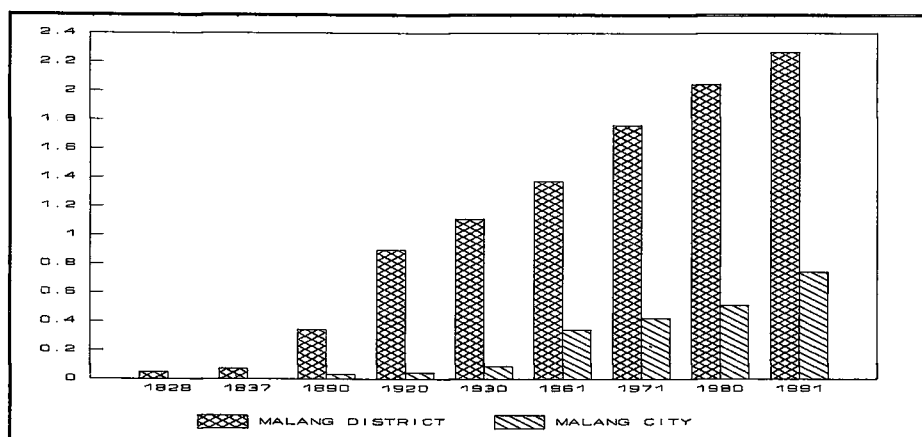
Malang... provided the environment for a small, educated and politically active middle class. It was, then, no accident that non-religious nationalist movements such as the PKI and PNI found a firmer foothold in Malang than elsewhere in the Pasuruan area (Elson 1984: 214).

The economic structure of the region, and its socio-political environment would lead to a particular political dynamic during the decolonization period as will be discussed below. After independence, the foreign owned estate sector was largely replaced by outgrowers forms of production. Figure 4.1 shows that the rubber sector almost disappeared while estate production in coffee and cane declined in importance and were largely replaced by

⁸ The population of Malang township grew from 12,040 inhabitants in 1890 to 29,541 in 1905, 42,981 in 1920, and 86,646 inhabitants in 1930 (Elson 1984:213).

outgrowers forms of production.⁹

Figure 4.2 Population Growth Malang district and town between 1830 and 1990 (x millions)



Sources: Elson 1984; BSP 1971, 1982, 1992

The population in the Malang region grew faster than that of East Java as a whole. Mackie and Zain (1989:309) show that the annual rate of population growth in East Java between the 1920s and the 1980s declined from 1.85 to 1.24 per cent. For the Malang district the figures for the same period are 1.70 and 1.77 per cent, which indicates a population movement from neighbouring districts to the Malang region and especially to the city of Malang. In 1991 almost 25% of the 3 million inhabitants of the Malang region lived in the city (KSPJT 1992:115). The average population density for the Malang district increased from 390 persons per square kilometre in 1976 to 474 in 1991; as the village studies will show, these densities vary with the different agro-ecological zones.

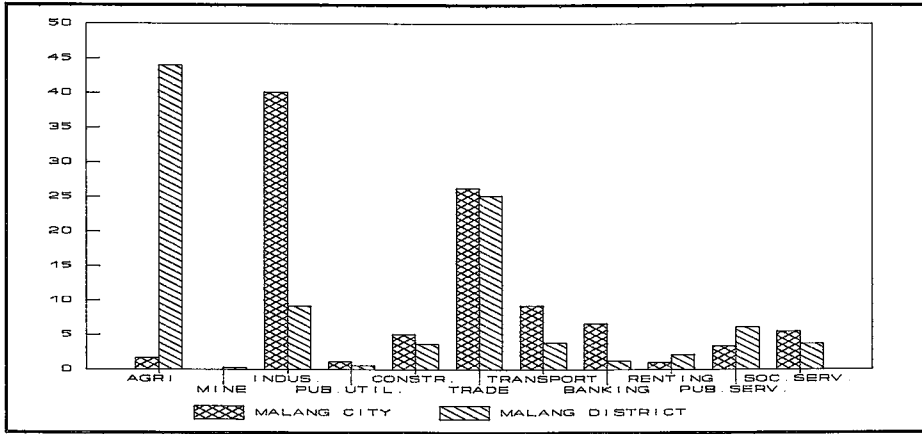
In 1991 the average welfare levels in the Malang district were lower than those of the province as a whole while in the Malang city these were higher. The Gross Regional Product Per Capita (GRPPC) for the district was Rp. 985,788 for the city Rp. 2,272,522 and for the province Rp. 1,172,723. Notwithstanding its higher population growth, the GRPPC for Malang city grew faster than that of the district (KSPJT:1993 8-9).

The structure of the urban and rural economies showed some large differences and similarities in 1991. Hartveld (1995:28-30) indicates that the Gross Regional Product of the district is relatively high; of this the agricultural sector contributes 44%. The high-volcanic zone of the district is known for its vegetable, fruits and animal husbandry products. In the middle- and low-volcanic zones coffee, fruits and timber are the dominant product-lines, in the alluvial zone rice and sugarcane are produced, and in the limestone zone food crops are grown on critical dry-land. The contribution of the industrial sector to the rural economy is relatively small (9%). This sector is dominated by small to large agro-industries, building

⁹ Where the mills in 1922 managed 60% of the sugarcane for refined sugar production and the outgrowers the remaining 40%, outgrowers in 1988 managed more than 99% of the sugarcane. The same is true of the coffee product line where farmers managed 90% of the coffee area and the public and private estates 7% and 3% respectively.

materials, and wood processing. More recently labour-intensive industries have moved into the northern sub-districts of the district. The urban economy is dominated by the industrial sector (40%), in which the major participants are the cigarette industry, agro-industries, and coach-work. Figure 4.3 shows that the contributions of the other economic sectors, such as public utilities, construction, trade, transport, leasing property and public and social services, are almost the same for both the rural and urban economies.

Figure 4.3 Sectoral contributions (%) to GRP Malang region (1991)



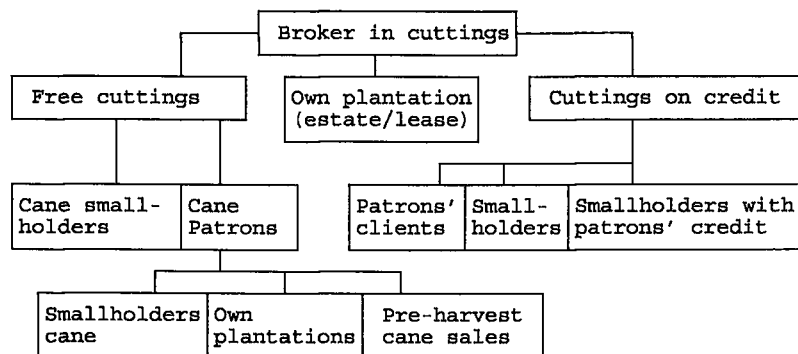
Source: KSPJT:1994

The socio-geographic and economic developments in the Malang region can be summarized as follows. First, the North Malang area is inhabited by long-established, mainly rice growing communities, while the South Malang area was a frontier area in the nineteenth century. Settler families from Central Java and western regions of East Java encroached on the alluvial and low-volcanic zones, leaving the marginal areas to foreign planters for the development of an estate sector. Second, the Malang region developed into a leading agricultural area with a strong foreign-owned estate sector, with coffee and rubber as staple crops, and a productive local farmers' sector growing rice, maize and cane. Third, the agricultural boom attracted both farm workers and industrial workers to the Malang region, mainly from Madura and the northern coast of Java. Both the rural and urban populations increased very quickly during the period of the liberal colonial policies (1870-1940). Fourth, during the post-independence period the Malang district remained a leading agricultural area, with high levels of productivity. Outgrowers forms of cash crop production largely replaced the estate forms, and along side rice, sugarcane and coffee became the staple cash crops in the lower agro-ecological zones. Fifth, industrial production increased sharply in importance in and around the city of Malang. These were initially forwardly linked agro-industries and local-market based, but recently labour-intensive and export-oriented industries have also become operative. Sixth, the current condition of the urban and rural economies in the Malang region is that they are respectively dominated by industry and agriculture, but have diversified with considerable contributions from the private and public service sectors.

4.2 Entrepreneurs and Mills during the late Colonial Period (1880-1942)

Local and foreign entrepreneurs, rather than the colonial government, introduced sugarcane production in the Malang region. As early as the Cultivation System period, owners of large holdings in the *tegal* zone of the Malang plain already produced sugarcane, which they processed into brown sugar (*gula merah* or *gula Jawa*).¹⁰ In 1923 the colonial administration organized a survey of the local processing of cane in the Malang district and found 725 wooden and nine iron sugarcane milling machines and boilers in operation there. Indigenous cane producing patrons (*juragans*)¹¹ operated these brown-sugar mills to process their cane. They could also sell it to contractors, who either themselves owned the mill, or worked on commission for Chinese brown-sugar brokers (*cukongs*) owning the mill (Crince Le Roy 1928:22, 34).

Figure 4.4 Trading- and credit networks for cuttings production



Source: Crince Le Roy 1928:32.

From the 1880s on, European and Chinese entrepreneurs took advantage of the opportunity to produce cane cuttings for the low-land sugar industry which needed healthy cane cuttings after the outbreak of a cane disease during the 1880s. The propagation of disease-free planting materials (*bibit* or cuttings) was problematical in the irrigated low land but not at higher altitudes, such as around the city of Malang. The entrepreneurs took up this backward linked activity and in 1895 planted nearly 700 ha cane for this purpose (Elson 1984:142), acting as both cultivators and brokers. Figure 4.4 shows the various arrangements the brokers used; they had their own long-lease holdings or rented land from estates and indigenous landlords; they bought young cane directly from smallholders and patrons, mainly in the Bululawang and Gondanglegi sub-districts; and they negotiated production and marketing

¹⁰ The Pasuruan regency at that time already had a core of experienced sugarcane growers and sugar mill operators. In 1828 there were 21 mills, one year later 51 and by 1831 the number of private sugar factories in the regency increased to 91 (Elson 1984: 20-25).

¹¹ The term *juragan* is locally used for the owner of a small-scale enterprise or ship and in cane production this person is seen as an employer rather than as a trader. The term *cukong* is locally used for a broker who concentrates on the cane trade and money lending as well as on cane production through local agents. In line with Boissevain's (1974) definition, in this study I will use the concepts 'patron' and 'broker' to distinguish these two types of entrepreneurs.

contracts with patrons and smallholders, for which they made advance payments (*panjer*). These advance payments had the objective of guaranteeing that the agreed amount of product was available on the agreed date at a fixed price. The cutting traders also tried to gain control over cheap cane through pre-harvest advances (*utangan*). Since these advance payments were quite risky, the brokers preferred to work through influential local patrons, who managed their own large farms and who were in addition involved in the cane trade. Their wealth, age and position in kinship and religious networks gave them influence over the smallholders in their communities. The foreign entrepreneurs provided pre-harvest advances to the patrons which these used for the production of cuttings on their own holdings, for giving advances to their clients (*anak buah*), for cane cuttings, or for buying cane from smallholders in their villages. The patrons either bought their cane through contracts tied to pre-harvest loans and advances (*beli tebasan*), or at the time of harvest time (*beli kwintalan*) (Crince Le Roy 1928: 25-32).

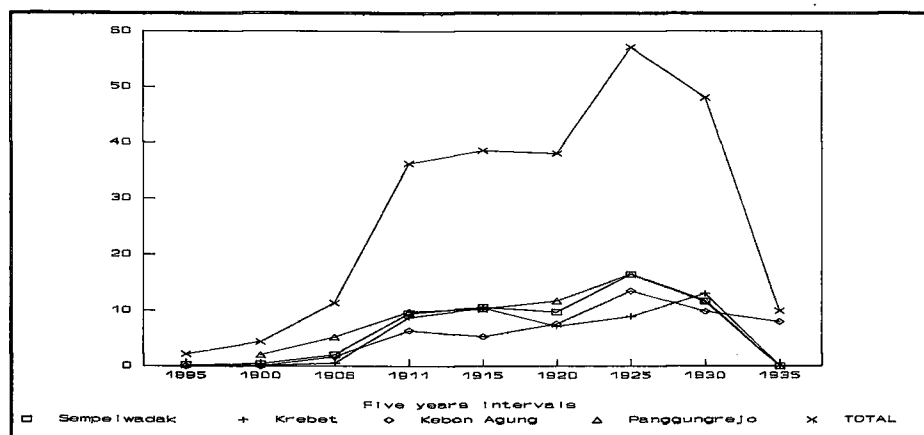
These sugarcane trading money-lending enterprises were not free of risk. The price of cuttings fluctuated considerably and the indigenous cane producers tried to cheat the brokers. To reduce these risks, the foreign brokers disposed of mature cane, that they could not sell as cuttings, to the sugar mill owners in the Pasuruan district. The Chinese cutting and brown-sugar brokers also owned or financed brown-sugar mills to process their excess cane into brown sugar (Crince Le Roy 1928:33; De Vries 1931:115).

Since cane production increased in importance in the Malang plains, around 1890 the colonial government issued concessions to four foreign entrepreneurs for the construction of sugar refineries. Large areas of the plain could already be irrigated at that time and there was considerable potential for technical irrigation from the Brantas river. Two Dutch, one Georgian, and one Chinese entrepreneur were allowed to establish mills, selecting locations in the villages Sempalwadak, Kreet, Panggungrejo and Kebon Agung. These concession holders did not invest immediately; the first mill was constructed in 1889 and the last one in 1908 (HCHONI, various annual reports).

At the same time, the colonial government invested in two large irrigation projects in the upper-Brantas watershed. Around 1905 it financed the construction of the Molek irrigation system, through which 4,600 ha land could be irrigated in the concession area of the Panggungrejo mill. Some years later the Kedung-Kandang irrigation works were completed in the concession area of the Sempalwadak and Kreet mills, allowing about 4,700 ha *tegal* to be irrigated. The mills, of course, were the main beneficiaries of the irrigation systems, since it enabled them to expand their cane area by introducing the *glebakan* tenure system in communities with communal land tenure (Elson 1984:170).

Around 1890 a Dutch company financed the construction of the Sempalwadak sugar factory, which had its concession area on the eastern side of the Brantas river shed. The mill relied heavily on cane which it bought from the local cane producers and cane cutting traders. It also yearly cultivated about 280 ha cane on its estate and on land it leased from villagers. The mill attained its top production around 1925, declined sharply after 1931, and closed in 1933 (HCHONI, various annual reports).¹²

¹² Deichmann and von Rath in Amsterdam owned the mill, employing a Dutch manager. In 1935 the owner sold the mill and the leasehold to PG Kebon Agung, another mill near the city of Malang. In 1960 the Research Station for Sugar industry in Pasuruan (P3GI) opened an out-station on the former compound of the mill (HCHONI various annual report; PG Kebon Agung 1978).

Figure 4.5 Sugar production Malang mills between 1895-1940 (in 1000 tons)

Source: HCHONI, various annual reports.

The second mill had the Gondanglegi sub-district, where brown-sugar production was concentrated, as its concession area. In 1894, a Georgian entrepreneur founded the mill in the village Kretet, but in 1902 he was forced to sell it to a Chinese entrepreneur, who in turn after seven years sold it to the Oei Tjiong Ham Concern to pay off gambling debts. This Semarang based concern was active in the international sugar trade and also wanted to control backward-linked industries.¹³ The mill relied heavily on cane it bought from local patrons. To lease land it had to compete with the brown-sugar and cane-cutting producers. In 1915/1916 the local administration increased the land area that the mill could rent for its own cane production and in 1917 the mill extended its lorry rail-way network deeper into the concession area, where landowners were still willing to rent them their holdings at regular intervals. Until 1924, however, the mill was reluctant to expand its own cane area, because the advantages of outgrowers cane outweighed those of growing their own (HCHONI, various annual reports; Crince Le Roy 1928: 14, 45).

A Dutch entrepreneur obtained the alluvial plains in the southwestern corner of the Malang district as a concession area and constructed a mill in Panggungrejo near Kepanjen around 1898. In 1902 this owner experienced financial problems as a result of which his creditors formed the *Cultuurmaatschappij* Panggungrejo in Rotterdam and appointed their own manager. Until the construction of the irrigation project the mill relied on cane it obtained through contracts with local patrons. In 1925 the mill was the largest in the district, but during the economic crisis of the 1930s, it was the first one to stop planting and processing

¹³ The OTHC concern acquired sugar refineries in Pakkies, Tanggulangin and Ponon in Central Java, and Redjo Agung and Kretet in East Java. The Oei Tjiong Ham Concern employed European managers for their mills, whom they gradually replaced by Chinese engineers. In 1918 the concern also constructed a tapioca flour mill in Kretet, which yearly processed the cassava grown on 3200 ha (Trees Nio 1980:120; Kunio 1989:140-143).

cane (HCHONI, various annual reports).¹⁴

In 1905 a Chinese entrepreneur obtained the alluvial area around the city of Malang as his concession, and he constructed a sugar mill in the Kebon Agung village at the southern border of Malang township. The mill rented the *sawah* holdings with communal tenure in its concession area with relative ease through the mediation of the village heads, who were under instruction of Dutch and *priyayi* administrators. Around 1918 the mill-owner experienced financial problems due to gambling debts; the *Javaasche Bank* foreclosed his loans and became the major shareholder. The bank demanded the formation of a company, allowing the founder to stay on as director. However, it gave the management contract to the Dutch company Tiedeman-van Kerchem (Kebon Agung 1978).¹⁵

Sugarcane production, managed both by the mills, brokers and indigenous patrons increased continuously in area. *Landbouwatlas voor Java en Madura* 1926 shows that in the Malang township, the Gondanglegi/Bululawang, and Pakisaji/Kepanjen sub-districts they respectively grew cane on 16%, 14% and 11% of the arable land in 1922. In Turen, Karanglo and Penanggungan it was respectively 2%, 3% and 6%, and in Ngantang and Pakis no cane was planted yet. In 1922 the mills and European planters controlled 60% of the 5,960 ha of cane in the Malang district. The remaining 40% was in the hands of indigenous farmers. About 45% of that cane was produced on *sawah* and 55% on *tegal*.¹⁶ The Malang mills had to compete with the mills in Pasuruan for the outgrowers cane. The latter purchased large amounts of it in the Malang hinterland and transported it to Pasuruan.¹⁷ From 1916 onwards the colonial government pressured the mills to develop mill-managed cane production, but the mills were reluctant to do this because outgrowers cane production gave them greater flexibility in reacting to fluctuations in prices on the international markets (Crinice Le Roy 1928:45).

Not all interest groups were happy with sugarcane cultivation by local entrepreneurs in the Malang district. The Javanese Sugar Syndicate criticized their ratoon production system because of its low yield of refined sugar. However, they also saw outgrowers cane production as a political threat to mill-managed cane production. Free outgrowers cane did not need the extra-economic coercion being used to lease land for mill managed cane. Therefore the Syndicate foresaw that outgrowers cane production had a better future but yet

¹⁴ In 1934 the owners sold the refinery to the N.V. Tjeweng Lestari *Suikerfabrieken*. The management company Tiedeman-van Kerchem, which also managed PG Kebon Agung, obtained the management contract.

¹⁵ Tiedeman-van Kerchem was the management subsidiary of the NV *Rubber Cultuur Maatschappij Amsterdam*, which offered services in the field of the management, administration and financing of agricultural, industrial and other enterprises. The firm had a network of commercial relations through which it efficiently ran agribusinesses. They banked through the Escompto Bank and had the *Nederlanden* of 1945 as their insurance agent. *Vraag en Aanbod* was their importer, Bombay Java Trading their export company, and Tikind did their construction (Martoatmodjo 1975:13).

¹⁶ In 1923 the average yields of outgrowers cane on *sawah* were respectively 930 and 750 *pikul* for plant cane and first ratoon cane. For the same cane categories on *tegal* the yields were respectively 570 and 510 *pikul*. In 1922 the mill's average yields for reynoso cane were 1313 *pikul* per *bouw*. One *pikul* is about 62.5 kg and a *bouw* is 0.70 ha (Crinice Le Roy 1928:21).

¹⁷ De Vries (1931:115) estimated the volumes of Malang cane crushed by Pasuruan mills during the peak years 1907, 1923 and 1924 to be respectively 49,500, 47,200 and 66,800 tons. This accounted for between 50% and 70% of the total outgrowers cane grown in the district.

wanted to prevent it. It anticipated problems with the supply, quality, and costs of the cane when outgrowers cane production in other regions grew in importance and thereby undermined the mills' reynoso production system. In 1924 the government forbade all the mills in the Pasuruan Residency to buy outgrowers cane.¹⁸ Several government officials (Van der Kolff 1925; Crince Le Roy 1928) argued against the regulations and supported the purchase of outgrowers cane by the sugar mills. The cane producers themselves were angry about the policy and preferred to return to brown-sugar production rather than renting their holdings to the mills.

From 1912 on, the Sarekat Islam movement very quickly took root in the Malang district. In the sugar regions the leaders of this organization were effective in defending the interests and improving the fate of the peasants and small traders. A Sarekat Islam group in Singosari established village cooperatives in an attempt to raise the rents which the mill paid to land owners. In the mills' concession areas, Sarekat Islam leaders operated advocacy centres for landowners' complaints about the policies and activities of mill and village officials. Educated and nationalist leaders headed the movement in the urban area, and Islamic leaders and traders did so in the rural area (Elson 1984:198).

The PFB union was quite successful in gaining the support of the permanent employees of the sugar mills. The union leaders used the network of the S(arekat) I(slam) organization and focused on improving the position of permanent workers vis-a-vis expatriate employees. The union succeeded in obtaining support among all levels of Indonesian workers.¹⁹ The colonial government used the strikes to pressure the owners of the mills to improve the labour conditions for the indigenous staff, but the mill owners labelled the PFB as a revolutionary organization and refused to recognize them as the representatives of the native employees in negotiations (Elson 1984: 202-204).

Later a struggle emerged in the Malang district between the Red (communist) and Green (traditional Islamic) factions of the Sarekat Islam; from 1921 on the radical faction attempted to transform the Sarekat Islam groups into communist *Sarekat Rakjat* (SR; People's Associations).

In the town of Malang itself, a S[arekat] R[akjat] committee was established late in 1924, and early in 1925 had succeeded in gaining control of the S[arekat] I[slam] there.... Their progress, indeed, was probably the reason for the appearance of the mysterious anti-communist group Sarekat Hijau (Green Association). But while the Malang communists succeeded in destroying the local influence of SI, their victory was a hollow one. The rural footholds they managed to establish were small, and their attempts to create a mass base in the rural areas were, with few exceptions, unsuccessful (Elson 1984: 206).

¹⁸ The government was only willing to make exceptions to the regulations when the mills initiated activities to terminate their dependency on outgrowers' cane, but could not quickly become self-reliant. The colonial government justified its policy on the basis of its "concern" that others than the cane producers, such as middleman, traders, and the mills, would gain control over the production of cane and its profits (Crince Le Roy 1928:14).

¹⁹ In 1919 and 1920 strikes broke out at both the Panggungrejo and Sempalwadak factories. The Dutch manager of Sempalwadak in 1920 dismissed all 170 members of the newly established PFB Branch. During the 1920 crushing season strikes also spread to the other two mills in the district (Elson 1984:204).

The Islamic leaders in Kreet's hinterland emphasized the religious basis of the S(arekat) I(slam) movement in the Malang district and transformed the green faction into the Nahdlatul Ulama or *ulamas*' party. These religious leaders, supported by Islamic traders and landowners, used their influence and networks to establish the NU as a social religious organization at the hamlet level in their sub-district. They organized classes in Qur'anic study (*pengajian*) through which they propagated an Islamic entrepreneurship and moral regeneration to replace the collaborating priyayi officials and the exploitations of 'sinful' colonialism. In response the colonial government repressed the leaders of the *ulamas* in the Gondanglegi sub-district (Kyai Nabrawi 1993, personal communication).

The colonial government crushed the Sarekat Rakyat movement in 1926. The SR activists established branches of the *Sarekat Buruh Gula* (SBG; Sugar Workers' Association) at the Sempalwadak, Panggungrejo and Kebon Agung mills. These branches were small, however, and the radicals failed to foment unrest in the factories (Elson 1984:196-206). After the communist inspired uprisings in West Java in 1926, the colonial government arrested all suspected leaders of the communist organization in the Pasuruan Residency and exiled them to New Guinea. 25 of the 32 exiles came from Malang township; most of them were merchants and artisans, although some low rank officials were included among them as well (Elson 1984:204-208).

During the 1930s three of the four mills stopped operation as a consequence of the economic depression. Two mills, Sempalwadak and Panggungredjo, were dismantled and the Kreet mill stopped crushing when its stocks of unsold sugar increased. Only PG Kebon Agung remained in operation, although on a continuously declining scale. The management of the mills tried to cancel or postpone the land lease arrangements which they had signed with the village heads or with individual landowners in their concession areas. Village chiefs and sub-district officials helped them to do this by lending their authority to the mills. Especially the wealthier landowners opposed the wishes of the mills and claimed compensation (Elson 1984:235).

We can summarize the colonial period as follows; sugarcane production in the Malang district had an internal forward linkage for brown-sugar production and an external forward linkage for the production of cuttings. The model of external linkage was also applied to the sugar refineries. Here, however, an estate form of direct cane production was used rather than indirect contract farming, as was the case with the production of cuttings. The managers of the sugar mills favoured outgrowers above estate forms of cane production, but under pressure of the Javanese Sugar Syndicate, they had to use the estate model. The colonial government forced the Malang mills to transform their cane marketing relations with the local patrons into land tenure relations, but the mills experienced difficulties in establishing linkages disliked by the indigenous patrons. The entrepreneurs cooperated with religious leaders in forming the traditional Islamic NU organization in order to prevent that the radical *Sarekat Rakyat* movement obtained support in what they saw as their backyard.

4.3 Outgrowers forms of Cane Production during Post-independence Period

The post-independence period I divide into three periods. First, the transitional period (1949-1962), during which the ownership and organizational structure of the mills was reformed. Second, the period of bi-partite sugarcane contract farming (1962-1976), during which the mills and the outgrowers' organizations annually negotiated and signed share-milling contracts. Third, the TRI contract farming arrangements (1976-present).

4.3.1 Transitional period (1949-1962)

During the Japanese occupation both Malang mills continued to operate on a much reduced scale. When the piles of unsold sugar increased, the Japanese reduced the area that the mills were allowed to rent in their concession areas. The Japanese ordered local landowners to plant food and industrial crops, which they had to deliver to the Japanese authorities.

In 1942 PG (*Pabrik Gula*; sugar mill) Kebon Agung was controlled by a Japanese sugar company which ordered the European senior staff to manage the mill until they could be replaced by Japanese civilians. After the Japanese capitulation, the Indonesian senior staff managed PG Kebon Agung until the Dutch military "police" action in 1947.²⁰ After the first Dutch military action in July 1947, the mill and much of its concession area were controlled by the Dutch army and the former Dutch management firm, Tiedeman-van Kerchem, took over the management from the BPPGN. Using capital from the Dutch Escompto Bank, it tried to operate the mill, but the political situation in its hinterland caused many organizational and security problems so that until 1949 the mill was able to crush only a minimum amount of cane.

The Kreet mill remained in operation until 1947, when it was structurally damaged by guerilla attacks. The Chinese managers of this mill continued to rent land for cane production and operated the mill after the declaration of independence.²¹ Both nationalist and Islamic organizations formed para-military units from among youth organizations for the defence of the Republic. These units became the core of Indonesia's first auxiliary military units, the TRI forces (*Tentara Rakyat Indonesia*; Indonesian peoples army). When the Dutch launched their first military action against the Republic in 1947, the Republican government and the TRI forces were forced to retreat into the South Malang area. During the second Dutch military action in 1948 the TRI forces used economic scorched-earth tactics and ordered the destruction of estates and factories in South Malang. The tapioca and sugar factories at Kreet were also plundered and structurally damaged by the TRI forces in cooperation with the labourers and villagers. As a result, when sovereignty was transferred to the Republic in 1949, only PG Kebon Agung was still operational.

After the transfer of sovereignty, sugarcane production rapidly recovered but the restoration of the refineries took longer. After the Japanese occupation, landowners in South Malang quickly increased their cane area and took to the production of brown sugar. The Kebon Agung mill again rented land in North Malang, but had problems preventing the destruction of their cane. Foreign-owned estates in South Malang were largely destroyed and their land had been occupied by squatters.²² Under these conditions there was little incentive

²⁰ Immediately after the Japanese capitulation the staff of the Japanese Sugar Estate Administration Office in Surabaya formed the BPPGN, which also controlled PG Kebon Agung. BPPGN founded a training center at PG Kebon Agung to train Indonesians for leading administrative and technical positions in the sugar industry.

²¹ During a conference on relations between Indonesians and Chinese in September 1946, the Chinese manager of the Kreet mill called for the formation of boards like the BPPGN and for the prohibition of other government agencies, including military organizations, from interfering in the affairs of member enterprises (Sutter 1959:420-421).

²² The plantations in the South Malang area were largely occupied by former estate workers, villagers and independence fighters. Especially rubber estates were destroyed and local elites, villagers and ex-guerrillas used the estate lands for food crop production. In Malang about 7,000 families occupied around

for former owners to return and make long-term investments as the area had only moderate production potential and the political environment was unstable.

Both Malang mills underwent drastic changes in ownership and management as well as in their linkages with the communities in their concession areas. The mills played a leading role in experimenting with outgrowers sugar-cane production. A look at the histories of both mills shows some striking similarities and differences in their organizational structure. I will first discuss the changes in the structure of ownership and management and then those in the agro-industrial linkages.

In 1951 the Indonesian central bank, Bank Indonesia, became the owner of the Kebon Agung mill. In 1949 the Dutch controlled *Javaasche Bank*, and the Tiedeman-van Kerchem company owned and managed the mill which was not damaged during the revolution. In 1951 the Sukarno government nationalized the *Javaasche Bank* and changed it into the Indonesian central bank under the name *Bank Indonesia*. This bank became the main shareholder of PG Kebon Agung and it continued the management contract.²³

The Kreet mill required major investments to repair the damage it had suffered and for this purpose the owners formed a joint venture with a state bank. The managers of the Oei Tjiong Ham Concern anticipated problems with leasing land and foresaw a dependency on outgrowers cane. The management proposed borrowing large investments for reconstruction as well as short-term credit from a state bank for the crushing season. The managers proposed to form a joint venture in which besides the concern, the government and the outgrowers would also hold shares (Trees Nio 1980:76-82). The farmers' leaders in the Gondanglegi sub-district supported the reconstruction of the mill, on the condition that only outgrowers cane would be milled.²⁴ Later the concern and the state bank BIN together formed two joint ventures: one to own and another to manage the mill. The Chinese managers continued to manage the mill and trained Indonesians to occupy senior staff positions in the sugar industry (Trees Nio 1980:76-82).

Since both Malang mills were already owned by Indonesian institutions, the nationalization of foreign-owned business had only minor consequences for them. Only the management structure of PG Kebon Agung changed when the staff of the Tiedeman-van Kerchem company was ordered to leave Indonesia in 1957. They were replaced by senior Indonesian staff members and, although the mill was owned by the national bank, in 1959 PG Kebon Agung was incorporated into the conglomerate of state-owned sugar factories.

In 1962 the Indonesian government confiscated all the property of the first Indonesian multinational, the Oei Tjiong Ham concern. In 1961 the government started a legal battle against OTHC, accusing it of unlawful international financial transactions and of foreign ownership, since the Chinese owners lived abroad. After a legal battle the government

20,000 hectare, mainly in the Dampit, Turen, Bantur and Pagak sub-districts (Sutter 1959:766).

²³ Later two internal foundations of Bank Indonesia, which were in charge of the Bank's employees' social security funds, became the major shareholders of PG Kebon Agung; the *Yayasan Dana Pensiun dan Tugangan BI* and the *Dana Tabungan Pegawai BI* (PG Kebon Agung 1978).

²⁴ These farmers' leaders were affiliated with the NU party and foresaw problems with the cane supply to PG Kebon Agung. Furthermore, they wanted to reestablish employment opportunities for local mill workers. They also had a political argument, however, namely, they wanted to prevent the infiltration of what they considered NU territory by radical parties, working through outgrowers organizations. The farmers leaders collected 25 kg gold as the outgrowers share in the joint venture that would become the new owner of PG Kreet Baru.

confiscated all OTHC property and various government agencies tried to gain control over the concerns' possessions. Finally, the Ministry of Finance founded PT RNI (*Rajawali Nusantara Indonesia*), a company that became the owner of OTHC's as yet undivided property. The management section for the sugar factories in OTHC, *PT IMACO*, was not effected by the ownership transfer (Kuno 1989:93-96).

The local government encouraged the local cane entrepreneurs and farmers' leaders to form outgrowers committees (*Panitia Tebu Rakyat*) at the village level. These committees were to act as intermediaries between local cane producers and the sugar mill. In PG Kebon Agung's hinterland cane entrepreneurs and farmers' leaders, affiliated with various political parties,²⁵ struggled for control over the outgrowers' organizations in which the latter were more successful. NU was the dominant social and political organization in PG Kribet Baru's hinterland, and the leaders of its farmers' organization (Pertanu) controlled the outgrowers' committees.

The leaders of both outgrowers' organizations differed in their ideas about the structure of the outgrowers' organization. The leaders of the more radical farmers' organizations favoured the model of the cooperative for their organization.²⁶ In 1954 they transformed the coordination boards at the sub-district level into KPTR cooperatives (*Kooperasi Petani Tebu Rakyat*; Cane growers cooperative) and formed an umbrella cooperative, the PKTR (*Pemusatan Koordinasi Tebu Rakyat*; Centre for coordination of cane growers). The leaders and staff of PKTR negotiated transactions and coordinated all kind of activities with the management of PG Kebon Agung. The PKTR leaders saw themselves as representatives of outgrowers, who defended their clients' interests in their relationship with the mill. The NU leaders in Gondanglegi and Bululawang directly founded a central organization during the negotiations around the reconstruction of the Kribet mill. They founded IMA Petermas (*Inlandse Maatschappij op Aandelen Perkumpulan Tebu Rakyat Malang Selatan*; Association of cane growers in South Malang LTD.) that initially would become co-owner of the mill, but later obtained a monopoly on mediating between the mill and the outgrowers. The leaders appointed commissioners that represented Petermas in 19 villages in PG Kribet Baru's concession area.²⁷ The Petermas leaders saw their organization more as a brokers' organization between the outgrowers and the mills, which provided services both to the cane growers and to the mill.

Thus, where the Petermas leadership managed their organization as a traders' company, PKTR operated as an interest-oriented organization. The differences in organization structure were related to differing ideas about the nature of the rural economy and the proper institutional form for the management of agro-industrial linkages for outgrowers systems. PKTR had a cooperative structure and represented the outgrowers in their relations with the

²⁵ These farmers organizations were PETANI, STII and BTI, respectively affiliated with the nationalist party (PNI), the moderate Islamic party (PSII), and the communist party (PKI). Local leaders of the independence movement led these farmers' organizations and tried to control the outgrowers' committees.

²⁶ The committees in PG Kebon Agung's hinterland created coordination boards at the sub-district level, the GPTR (*Gerakan Petani Tebu Rakyat*; cane growers movement), and at mill level, the Baputra (*Badan Pusat Tebu Rakyat*; Central Board for Outgrowers Sugarcane) (Soejono 1959).

²⁷ Respectively 85% of the IMA Petermas founders and 65% of the commissioners were hajji. Besides being cane producers, many of them were also active as traders in sugarcane and sugar (Petermas 1971).

mill and the local government. The PKTR leaders tried to exclude IMA Petermas as an outgrowers' organization, arguing that it was a capitalist traders company.²⁸ However, their attempts failed and the leaders of IMA Petermas in 1958 transformed the juridical form of their organization into a cooperative (KUD Gondanglegi 1990).

In contrast to the PKTR leadership, the Petermas leaders opposed any involvement of the mill in cane production. PG Kebon Agung obtained cane from its estate as well as from outgrowers from 1950 on. PKTR did not object to PG Kebon Agung's annually leasing between 300 and 1000 hectare of *sawah* for mill managed cane production, as long as the mill paid rents and wages that were acceptable to the landowners and cane workers (Soejono 1959). In PG Kribet Baru's concession area the leaders of Petermas opposed mill managed cane production. They supported the reconstruction of the Kribet mill on the condition that it relied on only outgrowers forms of cane production.

Both outgrowers' organizations arranged credit for their members, which was distributed in the form of fertilizer and cash to cover cultivation expenses for cane production. Between 1954 and 1957 they obtained the money from the Yatra office in Malang, but in 1957 the Yatra foundation stopped providing funds because of poor repayment performances by the outgrowers. The organizations therefore began to cooperate with the management of the mills in arranging loans from state banks. These banks requested collateral, which the mills provided for the outgrowers' organizations. The commissioners and leaders of the committees were responsible for the administration of the credit supplied to the outgrowers (Soejono 1959).²⁹

The sugar and sugar-cane trade in PG Kribet Baru's concession area was much more lively than that in Kebon Agung's. Before 1962 the mills paid the outgrowers in cash and sold all the sugar they produced themselves, using the Kasimo formula to determine the outgrowers' share of the proceeds. For technical reasons, in determining this price the mills used a system based on an average sugar content for all outgrowers cane processed during one crushing season. The mills made an advance payment when the cane was crushed, and a final payment after they had calculated the average sugar content for the crushing season. For the advance payment the cane owners received a *D.O.* (Delivery Order) sugar certificate. The certificate for the final payment was called *robet*. Since the cane producers had to wait several months before receiving their final payment, poorer cane producers sold their *robet* certificates to local patrons and brokers, who understood the procedures of the payment system and speculated in the certificates (Soejono 1959).

Because of the economic and financial crisis of the time, landowners and cane producers became less interested in receiving cash for rents or cane sales. In 1960 the Ministry of Land

²⁸ Petermas bought fertilizer with the credit it received, charged a high commission, and distributed it on credit to outgrowers, who had to make advance payments. Petermas organized the cane harvest for the mill on a contract basis, for which it annually employed up to 800 seasonal labourers. Between 1958 and 1964 Petermas leaders regularly had to deal with strikes by cane workers, which were organized by special interest organizations affiliated with the radical parties (Soejono 1959).

²⁹ Both outgrowers' organizations had conflicts with their members and with the mills. The members complained about the levies that were deducted by government agencies, Yatra and their organizations. After the 1954 and 1963 crushing seasons, Petermas got into a conflict with PG Kribet Baru, when it claimed compensation from the mill for the cane it failed to crush (KUD Gondanglegi 1990:4). The provincial newspaper Surabaya Post reported on January 30th 1956 that PG Kebon Agung's outgrowers organization successfully defended an outgrowers' claim for a subsequent payment of one million rupiahs, because the mill had not applied official central government regulations for outgrowers cane.

Registry determined that both mills in Malang would need 3.600 ha cane. PG Kebon Agung was allowed to plant 623 ha of it, and for the remaining area the mills had to rely on outgrowers cane. The district government in 1961 issued a decree ruling on the minimum cane area that each village in the mill's concession area had to plant. From 1961 to 1962 the outgrowers cane area for the Kebon Agung mill declined from 2.722 ha to 1.275 ha (Mubyarto et al. 1968:72 fn, 131-133). Many cane producers decided to process their cane into brown sugar, provoking reactions from the mills and the local government.³⁰ The prices received for food crops and brown sugar were relatively high and were less sensitive to inflation than the cash which they received from the mills was (KUD Gondanglegi 1990:4).

Brown-sugar production played an important role, especially in the more isolated areas of the Malang district. The brown-sugar traders in South Malang and the city of Malang sold it in the neighbouring districts, or to the Outer Islands through Chinese sugar traders in Surabaya.

To summarize, during the period just after independence, regional political and economic leaders played a central role in the transformation of the agro-industrial linkages in Malang's sugar industry while actors at the national level played a central role in the transformation of the ownership and management structure of both Malang mills. Local cane producers and the mill management in Malang's sugar industry developed initiatives to replace the estate grown cane by outgrowers cane. In the Malang district sugarcane processing was gradually externalized to sugar mills owned and managed by semi-public companies. Political conditions in the mills' hinterland not only determined the agro-industrial linkages which the mills could use, they also influenced discussions about the institutional structure and functioning of the outgrowers' organizations. Where radical organizations dominated, both outgrowers and mill-managed cane was tolerated, and horizontally-oriented outgrowers' and workers' organizations were started. Where conservative forces dominated, only outgrowers cane production was tolerated and vertically-oriented organizations were formed.

4.3.2 Bi-partite sugarcane contract farming (1962-1976)

The economic crisis of the early 1960s made economic aspects of the agro-industrial linkage more important than its organizational aspects. Both Malang mills tried to shift the outgrowers from processing brown sugar to selling their cane to them, by finding solutions for the negative effects of the hyper-inflation of the time.³¹ In 1962 they began paying the outgrowers and landowners in kind, enabled to do so by the national government through the PMPA 12 degree. Both mills abandoned the Kasimo formula, proposing to pay the

³⁰ A presidential decree issued in 1959 stipulated that outgrowers could process maximally 25% of their cane themselves and had to sell the remaining 75% to the sugar mills. In 1961 the mills requested and obtained assistance from the local government, police and military officials in closing the brown-sugar mills belonging to patrons who ignored the decree. However, at night the chains closing the mills were unlocked and brown-sugar production continued as an "illegal" activity. The patrons criticized the government actions as one-sided support actions in favour of the mills (KUD Gondanglegi 1990:4).

³¹ Between 1952 and 1961 the mills used the Kasimo formula in which the cane producers received in cash 55% of the value of sugar produced from outgrowers cane. Hyper-inflation and the high prices received for brown sugar made it more attractive for cane producers to produce brown sugar from their cane and sell it gradually or exchange it for commodities (KUD Gondanglegi 1990:4).

outgrowers four kg sugar per 100 kg cane. The outgrowers' organizations, however, demanded a better price. In negotiations with the mills they accepted a compromise in which the mills paid for the costs of the cane harvest and transport. After the 1963 crushing season both outgrowers' organizations protested strongly against the PMPA decree used by the mills. Namely they received only four of the 11.8 and 11.4 kilograms of sugar which respectively PG Kreet Baru and PG Kebon Agung produced from each 100 kilo cane. The outgrowers' organizations demanded a system in which they received a fixed share of the sugar produced (Fauzari 1973).

The complaints from the outgrowers motivated the national government to introduce share milling arrangements for outgrowers cane. One of the two decrees regulating the arrangements, was modelled on the organizational form of the agro-industrial linkage in Malang's sugar industry. Here the outgrowers' organizations and sugar mills regularly met to negotiate conflicts of interest and to coordinate their activities. PG Kreet Baru obtained the status of a pilot project for the SK3 decree, which PG Kebon Agung was forced to follow as well in order to prevent problems.³² To compensate for the low share of the sugar which the outgrowers received during the 1963 season, they received 60% the sugar produced during the 1964 season. A year later the division changed into 50-50%, because the mills considered the 60-40% arrangement to be too costly for them (Fauzari 1973:25-26).

The share milling arrangements and the payment in sugar led to a lively trade in the sugar certificates issued by the mills. During the 1962 and 1963 crushing seasons Petermas tried to sell their members' sugar shares centrally through public auctions. During the 1964 season, however, they left the trade to their members and the cane traders. Both mills worked with an average sugar content for all outgrowers cane processed during the crushing season. Annually the mills and the outgrowers' organizations negotiated a milling contract, in which harvest expenses and payment procedures were specified. The procedures using advance and subsequent payments after the close of the crushing season created a lively trade and speculation in *D.O's* and *robet* certificates, more so as inside information about the development of the outgrowers' sugar content leaked out. The trade in these sugar certificates was more vivid in Kreet Baru's hinterland.³³ Local and regional traders in agricultural products became involved in it as did the leadership of the outgrowers' organizations and the mill. The leadership of Petermas was in a central position to buy sugar certificates. Chinese, Madurese and Javanese brokers built up traders networks, with intermediate agents at the village and sub-district levels, to purchase the sugar certificates from poorer cane producers. Long before the start of the crushing season, they had already bought cane and sugar certificates from the outgrowers through loans and advance payments on sales contracts (*ijon* and *tebasan*) (Fauzari 1973:27-28).

The new share milling arrangement implied a change in the position of the outgrowers' organizations. In addition to administering the cane and credit, these organizations also negotiated and monitored the milling contracts, which they closed for their members each year. In these contracts, the rights and obligations of both partners were stipulated, the sugar

³² Both mills, namely, obtained their cane partly from the same villages and any differences in cane prices would immediately have a negative influence on the cane supply of one of the two mills.

³³ The Petermas leaders were trade-minded and tried to change policies to the traders' benefit. A lower advance payment automatically led to a higher subsequent payment and thereby made speculation more attractive. The management of PG Kebon Agung disliked the trade and made it less attractive through higher advance payments and a longer wait for the subsequent payment.

content system, the supply and payment procedures, and the tariffs for cane cutting and transport being the major issues in these negotiations. The contract system facilitated the mills' planning and coordination, and for the outgrowers' organization these contracts made it easier for their members to obtain credit funds for cane production.³⁴

The economic crisis intensified the tensions within the sugar refineries. After the nationalization of the mills, new institutional structures in which the trade unions were also represented, were imposed on their management.³⁵ Hyper-inflation led to demands for sharp increases in income; the radical unions at PG Kebon Agung organizing strikes to back their demands. The military broke some of these strikes and the mills had to organize their own security guards to prevent sabotage. At PG Kribet Baru the NU dominated the workers unions and was more moderate in their demands of the mill management than the radical organizations.

The communist organizations' confrontation strategy in the rural areas also led to clashes with Muslim organizations. Unilateral communist action for agrarian reform in the Malang district concentrated on land redistribution. The official land reform programme had been quite successful in the former estate areas in South Malang.³⁶ However, in this area different gangs emerged which claimed to represent the local government. These gangs were formed around an Islamic leader, a village head or a guerilla leader. In 1964 the local government and police initiated a campaign against these what they saw as 'criminal' gangs, which were a source of agrarian unrest.³⁷

In the sugar industry the communists targeted the mill's land rent system and the cane workers' labour conditions. The BTI supported peasants who opposed renting their land to the mill, and together with the *Sarekat Buruh Tani* it organized strikes of cane workers against the Islamic patrons and their outgrowers' organization Petermas. These actions provoked reactions by the NU leadership through their youth organization, GP Ansor.³⁸ In the Malang city GP Ansor also cooperated with HMI (*Himpunan Mahasiswa Islam*; Moslem Student Association), in their clashes with organizations affiliated with the communists (Walkin 1969:836).

After the attempted communist coup of 1965 and the army's reaction in Jakarta, the army

³⁴ Between 1957 and 1975 both outgrowers organizations obtained the credit funds for their members from the BRI bank. However, the mills provided the collateral for these loans on basis of their milling contracts with the outgrowers organizations.

³⁵ At Kebon Agung SOBSI, SOBRI, SABUMUS, and SOKSI represented respectively the communist, socialist, muslim and senior staff segments of the mill's employees.

³⁶ Early in 1965 the Agrarian Office in the Malang district reported that it had distributed about 32,571 ha arable land to 54,104 persons. The Java Pos newspaper of February 10th 1965 reported that 31,081 ha former estate land, 12 ha came from absentee landlords, 521 ha from excess land of landlords, and 182 ha from expired long-term leaseholds had been redistributed.

³⁷ Regional leaders expressed the view that the police and army exploited local conflicts to create rural instability. They were said to even have supplied arms to the different rival gangs.

³⁸ A regional NU leader, who had been committee member of Petermas since its foundation, organized a gang from the members of local GP Ansor youth organization. They threatened the BTI and SBG action leaders with physical violence if they continued their agitation against the hajji entrepreneurs and their organization (Kyai Nabrawi, personal communication).

coordinated the crushing of the communists. In several districts in East Java local religious leaders initiated uncoordinated and religiously inspired campaigns against communist groups and secular communities. In the Malang district the activities of the anti-communist organizations were initiated and coordinated by the regional military commander.³⁹ As a result the communist leaders were arrested without too many casualties among the anti-communist forces (Anonymous 1965:137, 142, 146).

The crushing of leftist leaders and their organizations in the Malang district occurred mainly in the former estate areas and around the city of Malang; leaders of radical farmers' and cane workers' organizations there were jailed or assassinated. In PG Kabet Baru's hinterland the NU organizations maintained a firm control over the social organization of the communities. In 1966 the district government removed supporters of the leftist organizations from Kebon Agung's outgrowers' organization PKTR and replaced them with NU members. These activities drastically changed the political forces in the Malang district and beyond the vertically integrated sugar production systems. The New Order government depoliticized the arena's at the village and the sub-district levels by banning the local branches and activities of political parties. Only Islamic organizations could continue with their social and religious activities at the village level. The government further increased the competence of the *camat*, as head of the sub-district government.⁴⁰ The *camat* along with the head of police and army were the political leaders at the sub-district level, who coordinated their activities in the MUSPIKA (*Musyawahar Pimpinan Kecamatan*; local leadership council). The *camats* were the representatives of the district government and therefore responsible for social order in their sub-district. They had to coordinate governmental and developmental activities and to promote the national development ideology in their sub-district. The *camats* also had a central role in the planning and coordination of cane production at the sub-district level. They had to be consulted and involved in matters like the registration of the cane area, the allocation of credit, and the organization of the cane harvest (Tjondronegoro 1984:89).

The New Order government also reorganized the political structures in which the government organization Golkar gained the dominant position.⁴¹ First, all government officials had to join Golkar. After the general election of 1971, the New Order government forced the Islamic parties to fuse into one Islamic party, the PPP (*Partai Persatuan*

³⁹ The Regional commander of Malang-Besuki led the extermination. He united the anti-communist parties and organizations in the "Crushing Action Committee" (*Panitia Aksi Pengganasan*) and thereby coordinated the strategies and activities of the Youth Front. The Youth Front, which was dominated by the NU Youth organization GP Ansor, carried out the elimination of the communists. They arrested communists, ordered them to point out their leaders and cadres. These were then arrested and turned over to the army (Anonymous 1965:137, 142, 146).

⁴⁰ The *camat* is a professional public administrator, appointed by the district head, *bupati*, who coordinates all government activities at the sub-district level. This forms a contrast with the village heads whom the *camat* supervises. The village heads are elected from and by the community. Commonly the village heads are selected from the elite families in the village who are related to the descendants of the village founders.

⁴¹ The New Order government formed its own political organization in which the functional groups (*Golongan Karya* or Golkar) had to cooperate under government patronage. Through this organization the New Order government established its own political legitimation; during the elections held since then Golkar obtained the majority of the votes. Some of these functional groups are the military organization (ABRI), the civil servants' organization (KORPRI), the official trade union (SBSI), and the farmers' organization (HKTT).

Pembangunan; United Development Party).

It seems obvious that the main intention behind this and other actions of the Suharto government has been to stifle the political ambitions of the Islamists and restrict their activities to the social and religious sphere (Cederroth 1994:3).

As a consequence of the struggle for control of the party between the various streams within the PPP, the NU decided in 1984 to leave the party and become a purely socio-religious organization. In the Malang district the *kyais* and *ulamas* controlled the PPP, although at the village level many NU leaders and all village heads joined Golkar.

The production of refined sugar recovered with the new share milling arrangements and the macro-economic policies of the New Order government. The SK 3 decree, in combination with declining brown sugar prices, shifted the comparative advantage from brown sugar to selling the cane to the mills. During the late 1960s as well, more farmers shifted to cane production and, following the example of traders, gradually expanded their cane area. As a consequence the mills experienced significant problems in processing all the outgrowers cane in time. The refineries were in poor condition due to delayed maintenance, which caused regular break-downs and delayed crushing until deep into the rain season.⁴²

These extended milling seasons increased the risks for outgrowers and also had a negative impact on the services of the outgrowers' organizations. Officials of cooperatives became involved in the trade in sugar and cane and gave preferential treatment to cane in which they had an economic interest. The brokers bribed mill and cooperative officials to have their cane crushed during the optimal period. Cane growers either had to process their cane into brown sugar, sell it to cane traders, or risk its being milled too late (KUD Gondanglegi 1991:5).

In 1968 the New Order government allowed Bank Indonesia, the owner of PG Kebon Agung, to choose its own management firm. The Bank transferred the management from the national sugar conglomerate to the Indonesian successor of the Tiedeman-van Kerchem firm, the Triguna Bina company.

From 1971 onwards some traders and entrepreneurs developed strategies with which to break the trading monopolies of the Malang mills. Stagnation in the processing of cane put pressure on cane prices and rather than depending on and waiting for the Malang mills, traders started to sell cane to private and state-owned sugar mills outside the district.⁴³ For this purpose they allied themselves with the military and political leaders, to transport the cane to mills where they could make larger profits.

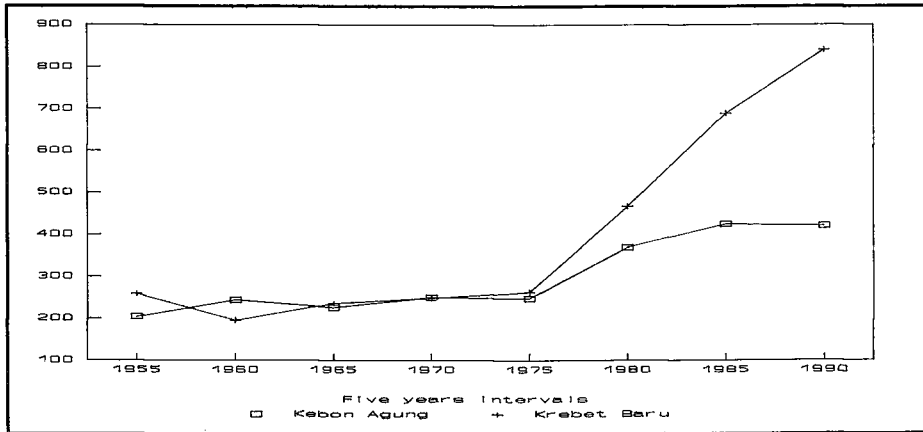
In the annual negotiations of the milling contracts, the outgrowers' organizations tried to change the implementation of the central price and market regulations. The leaders of Petermas, for example, proposed to use individual sugar content to motivate outgrowers to pay attention to both the weight and the sugar content of their cane, because the sugar content of outgrowers cane declined sharply after 1965, as Figure 4.7 illustrates. In 1975 Petermas also demanded an outgrowers' share of the mills by-products, such as molasses.

⁴² During the 1966 campaign PG Kribet Baru crushed for only 55 days, from late June until late August, while during the 1974 season it crushed for 210 days, from late May until late December (PG Kribet Baru 1988).

⁴³ These mills relied heavily on sugarcane production in the *sawah* areas. The successful Green Revolution in paddy production made that crop more attractive to landowners than renting their cane land to the mills was. The mills had no policy about developing outgrowers cane production in *tegal* areas.

The managers and owners of PG Kreet Baru suggested that these matter could be better decided at the national level rather than the regional one.

Figure 4.6 Sugar production Malang mills at five-year intervals 1955-1990 (in 100 tons)



Source: P3GI 1955-1990

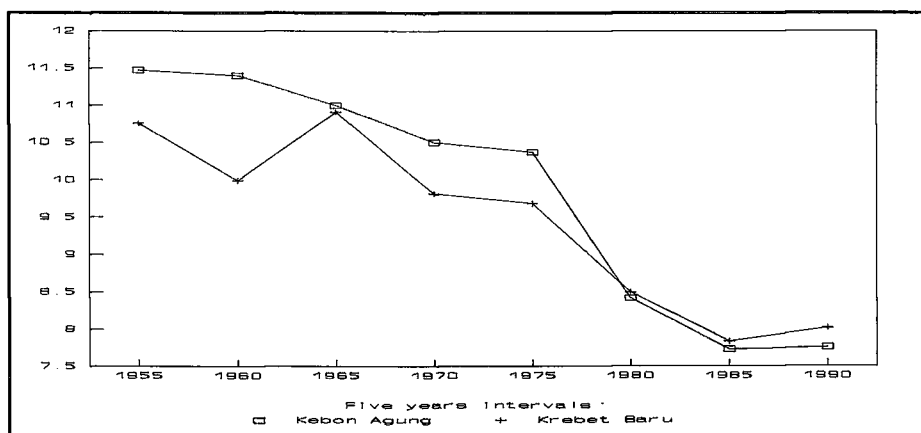
From 1975 on PG Kreet Baru also invested in their own extension service for outgrowers cane production. The mill did not want to rely on the Ministry of Agriculture's field staff and the outgrowers' organization. The Ministry claimed technical extension on cane production as its mandate but lacked operational funds for these activities. PG Kreet Baru's field staff, which had transport facilities and a budget for their activities, became responsible for giving technical advice to cane producers, for organizing demonstrations, for introducing cane production in the dry land areas, and for coordination of the cane harvests.

The outgrowers had to pay various levies and commissions to state agencies involved in the sugar sector. Those of PG Kebon Agung in 1966 paid a commission of 0.66% of their sugar value to the outgrowers' organization, a levy of 0.1% to the provincial and district governments, and a sales and indirect tax of 3.4% and 1.5% to the national government. For the cane harvest they paid 20.6% to the mill and for packing materials of 3.4% of the value of their sugar. Thus the outgrowers paid almost 30% of their sugar share to government agencies, the outgrowers' organization, and the mill (Mubyarto et al. 1968:85, 146).

In summary, the period between 1962 and 1975 also was a transitional period in which the actors in the Malang sugar industry experimented with new socioeconomic relations for the agro-industrial linkages. Outgrowers stopped selling their cane to the industry when macro-economic policies failed to create stable economic conditions. The mills and the government restored the linkage, first through legal mechanisms and later through economic ones. By using payment in kind, the mills again made it attractive for outgrowers to sell their cane again to them, and at the same time for brokers to operate in the sugar market. The national government provided the legal framework for the institutional structure of this linkage, through which the economic actors involved coordinated their activities and negotiated their transactions. Imbalances in cane supply led to private initiatives of actors in the formal institutional structure. Their trade activities led to project led the less informed outgrowers to experience losses. Traders reacted to stagnation in cane processing and prices by forming

strategic alliances with military and political leaders and breaking the cane marketing monopoly of the Malang mills.

Figure 4.7 Average sugar content (%) of cane crushed by Malang mills between 1955 and 1990



Source: P3GI 1955-1990.

4.3.3 TRI contract farming arrangements (1976-present)

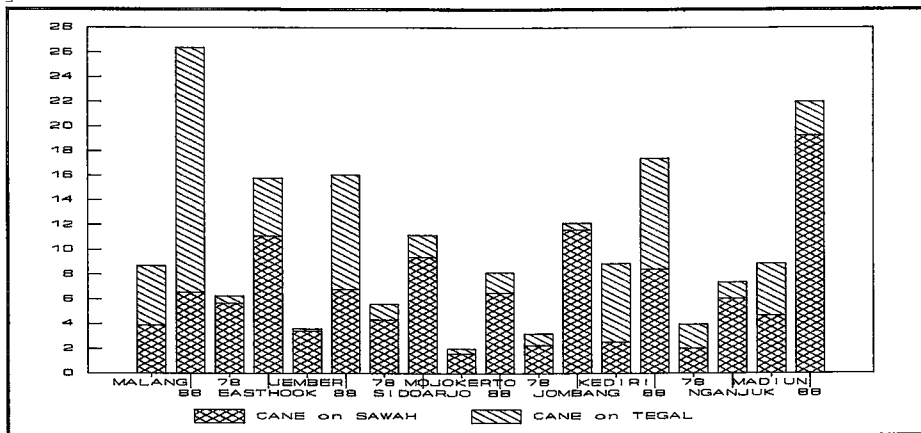
The institutional structure of the TRI programme led to adjustments in the organizational structure of Malang's sugar industry. The commissioners of the outgrowers' organizations at the village level had to be replaced by TRI groups, and the outgrowers' organizations by government-controlled cooperatives at the sub-district level. The local government wanted to gain more influence over rural institutions, and through the TRI groups at the village level and the new cooperatives at the sub-district level it moved the outgrowers' organizations under its patronage.

In the TRI program, credit and marketing relations were tied to a combination of contracts. First, the BRI bank provided credit to the cooperatives at the sub-district level. These allocated it to the outgrowers, through the village heads and TRI groups at the village level. Second, the sub-district cooperatives signed milling contracts with the sugar mill to crush their members' cane. These cooperatives did not sign credit contracts with individual cane producers. Instead, they pressured the producers by "explaining" to them the central government regulations for the TRI programme, which tied credit to cane marketing relations. The cooperative had the outgrowers sign only for the fertilizer and credit funds which they received from them. The mill was the coordinator of the TRI programme at the sub-district level, and for which it relied on local government officials and the cooperatives, who knew local conditions and presented the contractual obligations to the cane producers.

The transformation of the existing outgrowers' organizations into a government controlled cooperative took several years. After several less successful government attempts to form village cooperatives, the local government in 1973 created BUUD (*Badan Usaha Unit Desa*: village enterprise unit) at the sub-district level. These BUUD's were involved in distributing

the credit for the third BIMAS rice intensification programme, a credit programme which was not free from financial debacles (Hansen 1973:332). In 1978 the BUUD's had to amalgamate with the existing cane growers' organizations into the KUD (*Kooperasi Unit Desa*; village cooperative unit), a policy which the leaders of the outgrowers' organization opposed.⁴⁴ Sub-district and village government officials selected committee members and TRI group leaders from among their clients. It was generally known that there was considerable financial gain involved for the leaders of outgrowers' institutions, but to make the amalgamation process run smoothly, officials and respected committee members of the former outgrowers' organizations first had to be invited to take up positions in the new KUD.

Figure 4.8 Cane area of East Java's sugar regions in 1978 and 1988 (1000 ha)



Source: P3GI 1978, 1988.

The cane area in the Malang district increased quickly, especially in the *tegal* areas. As figure 4.8 shows, between 1978 and 1988 the cane area increased in all sugar regions in East Java, but these varied with the district and agro-ecological zones. In 1978, the Easthook, Sidoarjo and Madiun regions had the largest cane area on the *sawah* zone, and in the Malang and Kediri regions this was true of the *tegal* zone. Ten years later the cane area on *sawah* expanded, especially in the western regions of East Java (Mojokerto, Jombang, Kediri and Madiun), while the *tegal* area did so in the eastern regions (Jember, Malang and the Easthook). Between 1978 and 1988, the outgrowers' share of the cane area in the Malang region increased from 80% to 99%. In the same period the share of cane planted on *tegal*

⁴⁴ They saw it as a government attempt to bring NU dominated social organizations under its patronage. For example, Petermas owned land, offices, and shops and made considerable financial contributions to Islamic social foundations. The leaders feared that they would lose control over these resources and would no longer be able to financially support Islamic social organizations. In addition, they expected that they would have to shift their political support away from an Islamic party to the government organization (Golkar).

in Malang increased from 44% to 75%.⁴⁵ In other words, compared to other sugar regions in East Java, the Malang district has the highest proportion of outgrowers cane, the majority of which is planted in the *tegal* zone.

Between 1976 and 1978 the mills renovated and drastically expanded their crushing capacities. In 1972 the Indonesian Sugar Study estimated the potential cane area in the Malang district at 12,000 ha and the optimal milling period to be 160 days. On basis of the Sugar Study, the owners and the management decided to expand the crushing capacities of their mills.⁴⁶ PG Kebon Agung renovated and expanded its refinery using funds from the first World Bank loan for the sugar industry of 1976. Because of the new capacity, the mill's cane area had to increase from 3,371 ha in 1974 to 6,500 ha in 1977 (PG Kebon Agung 1978:3-4). In 1974 the Kribet Baru mill wanted to expand its crushing capacity by replacing their labour-intensive old mill with a new capital-intensive one, a plan which the local government opposed because of its consequences for employment opportunities. A compromise was reached, in which Kribet Baru would not replace the old mill, but renovate it and construct a new one in addition. In return the regional government would assist the mill with the expansion of its cane area in its procurement area.

In 1977 the local government reorganized the district into two procurement regions in 1977. For the 1977/1978 season, in decrees that specified the targets for sugarcane per district and mill, Bimas Advisory and Executive Boards sharply increased the sugarcane areas for both mills. PG Kebon Agung's target area increased from 4,253 to 6,000 ha, of which 1,250 ha of new cane had to be planted in the Blitar district. The cane area for PG Kribet Baru increased more sharply but stayed within the boundaries of the Malang district. As is shown in Map 5.1, in the reorganization of the procurement areas, PG Kribet Baru got sub-districts on the southern and eastern sides of the Malang district and PG Kebon Agung did so on the northern and western sides. These new procurement areas gave the mills a core *sawah* area in Malang's sugar belt and an expansion area in the peripheral *tegal* areas.⁴⁷

Although the area under sugarcane in the Malang district increased considerably, sugar productivity declined. As can be seen in Figure 4.7 the mills crushed cane from a larger area but their sugar production did not increase proportionally. Rather, the average sugar content declined.

4.4 Conclusions

The Malang district was a leading agricultural area in Java during the colonial period, continuing to be so after decolonization. After independence, the estate form of cash-crop production was destroyed in some product lines like rubber, or was transformed into outgrowers forms of cash-crop production in sugarcane and coffee. During the post-

⁴⁵ In East Java as a whole these increases were from 58% to 93% for the outgrowers' share of the cane and from 23% to 34% for the cane grown on *tegal*.

⁴⁶ In 1974 the owners of the privately owned Candi sugar mill in the Sidoarjo district planned to construct a new sugar factory in South Malang, near Kepanjen. The owners of PG Kebon Agung and PG Kribet Baru lobbied heavily at national, provincial and regional levels to prevent this.

⁴⁷ Both mills developed an expansion policy for the dry land areas and the local government allowed them to rent dry land for two cane crops.

independence period, the agricultural sector continued to contribute to high productivity levels and a further diversification of the rural economy.

Its particular agro-ecological conditions and settlement history shaped both the economic and political conditions in the Malang district. Javanese communities settled first in the areas with potential for wet-land rice production in the low-volcanic and alluvial zones. The colonial government between 1830 and 1870 involved these communities in colonial coffee production in the low-volcanic zone. During the same period, political refugees from the Java War and the Cultivation System, encroached on the alluvial dry-land zone in the Malang plain. They aimed to produce food crops, and owners of large holdings even planted sugarcane. Around 1880 the area that had not yet been encroached upon was leased to foreign planters for estate forms of cash-crop production. The foreign entrepreneurs and local landlords recruited many Madurese workers who also wanted to establish themselves as independent farmers. The communities in each of these settlement areas had their specific dominant economic activities and a related socio-political environment and land-tenure system. In the Javanese communities aristocratic elites and their local stewards (village heads) played a leading political role and supported communal-tenure systems for the *sawah* holdings on which they could impose certain levies. In the frontier region, Islamic landlords and *ulamas* dominated the political arena and applied hereditary private tenure systems to *tegal* holdings. In the estate communities the colonial government, the foreign planters, and their intermediary agents dominated the local political arena, and the colonial government applied a long-term lease system to the land they occupied.

Decolonization had differing implications for these three different socio-political environments. In the long-established Javanese communities, the radical political parties gained more support among *priyayi* and village elites. The local factions of these parties tried to recruit local support through horizontally-oriented cane growers' and cane workers' organizations, which bargained for their interests with the mill managers. In more recently established communities the landlords and *ulamas* consolidated their vertically-oriented NU organizations and prevented organizations affiliated with the radical parties from penetrating their area. In the estate area various gang like factions, linked to political and social organizations at the supra-local level, struggled to influence the redistribution of the estate leaseholds now held by squatters.

The particular social and economic structure of the region also had its impact on the development of the Malang sugar industry. For the colonial period we can summarize that sugarcane production in the Malang district had an internal linkage for brown sugar production and an external one for cane-cutting production. The colonial government later introduced external linkages for refined sugar by involving foreign entrepreneurs because the technology was too unfamiliar and the investments too high for the actors operating brown sugar mills. The management of the sugar mills favoured outgrowers forms of cane production, but under pressure of the Javanese Sugar Syndicate they were forced to develop the estate form. The colonial government legally forced them to develop mill managed cane production and assisted them in introducing the *glebakan* tenure system. This was not too difficult for the *sawah* holdings with communal tenure systems, but created problems in communities with hereditary private tenure. Here landowners refused to lease their holdings and returned to brown sugar production. As a consequence the mills had to penetrate deeper into their concession areas.

After Independence, the actors at the national level played a central role in the transformation of the ownership and management structures, and actors at the regional level did so for the agro-industrial linkages in the Malang sugar industry. The Old Order

government arranged to the nationalization of the *Javaasche Bank* and the confiscation of Oei Tjong Ham Concern's property, as a result of which both Malang mills became semi-public enterprises although they remained outside the conglomerate of publicly-owned sugar mills. Local outgrowers leaders and the management of Malang's sugar industry developed initiatives to replace the estates forms of cane production by outgrowers cane. Local political conditions influenced the form and organizational structure of the linkages. Horizontally-oriented organizations for the outgrowers' and estate workers dominated in the long established settlement areas, while in the NU dominated areas more vertically-oriented organizations were formed. The leaders of the NU farmers' organization only accepted outgrowers cane production and formed a company through which they coordinated the linkage between the outgrowers and the mill.

Between 1962 and 1975, a transitional period, major changes occurred in the socio-political environment as well as in the organizational structure of the linkages, as the actors in the Malang sugar industry experimented with new organizational models. To solve the negative impact of hyper-inflation, the mill paid the outgrowers with sugar, which made it not only attractive for outgrowers to sell their cane to the mill, but also for brokers to operate in the sugar market. Especially in PG Kribet Baru's hinterland traders established parallel networks through which they bought sugarcane and sugar certificates from outgrowers and sold sugar on the national market.

The New Order government after 1965 radically changed the sociopolitical environment in the mill's hinterland by forming an alliance with the conservative factions in the political organizations, and by destroying the leftist groups and organizations. This also changed the interactions between the actors in the institutional structure because factional struggles disappeared at the village and sub-district levels. Outgrowers' organizations had been replaced by government controlled rural institutions, which since 1965 have been dominated by NU farmers leaders. The New Order government's TRI programme has led to the patronage of government agencies over the outgrowers' organizations. TRI groups at the village and cooperatives at the sub-district levels have been placed under the patronage of respectively the village leaders and the sub-district leader.

Between 1978 and 1988 the cane area in the *sawah* zone doubled and in the *tegal* zone quadrupled. Imbalances between the crushing capacity of the mills and the supply of cane led to private projects by actors in the institutional structure at the expense of less informed and poorer outgrowers. Traders reacted to cane shortages in other districts by forming strategic alliances with military and political leaders to break the cane monopoly of the Malang mills. In Part Two of this study the implications of these organizational changes at the village level will be further analyzed.

Part Two VILLAGE STUDIES: Introduction

In this second part of the study the results of the three local-level studies are presented. However, before doing so, I will first discuss the criteria for the selection of the three villages as well as giving a brief overview of these respective locations and their social and ecological conditions.

Sugarcane production in the Malang district has been concentrated in the poorly irrigated alluvial zone and the dry-land low-volcanic and limestone agro-ecological zones. During the colonial period, the sugar belt was located in the irrigated area of the Malang plain, where the mills practised Reynoso cane production. Nowadays, only PG Kebon Agung still does this on about 200 ha *sawah* holdings it owns and rents in the Pakisaji, Kendung Kadang and Bululawang sub-districts. The outgrowers mainly produce ratoon cane, and it is especially the landowners with holdings on the young volcanic soils in the sugarcane belt who make it their specialty. Landowners with holdings on sedimentary soils in the former sugarcane belt specialize in paddy and plant cane on their less fertile and poorly irrigated holdings. In the sub-districts Bululawang and Gondanglegi, where soils are lighter, landowners now plant more than 50% of the arable land with cane, while in the sub-districts Kepanjen, Pakisaji and Sumberpuncung, with clay soils, this is between 20 and 25%. After 1976, sugarcane production expanded into the dry-land area in the low-volcanic and limestone zones. There landowners now plant less than 20% of the arable land with cane.

Three villages in the district were selected for local level studies, in such a way that they covered the different agro-ecological zones, the different waves of settlement, and the hinterlands of both sugar mills operating in the district (see Map 4.2). Sugarcane was introduced into the three above-mentioned agro-ecological zones where it is now grown, in different periods and using different strategies. Linked to these different ecological zones are distinctive settlement histories; these are long-established communities, refugee communities that formed around 1830, and plantation communities settled after 1880. Both PG Kebon Agung and PG Kribet Baru, furthermore, have different production regimes that historically applied different policies and strategies in their relations with the agrarian communities in their hinterland. The selected research locations should facilitate an analysis of the impact of the physical and the sociopolitical environment on the contemporary organization of sugarcane production in the district.

The first village, Dadapan, is a long-established community, located along the boundary of the low-volcanic and alluvial zones. Farming households here used to cultivate paddy on irrigated holdings with clay soils, and food crops, such as maize and cassava, on their dry-land holdings. Around 1910, PG Kebon Agung introduced the *glebakan* tenure system for the irrigated area with communal tenure, where it produced mill managed Reynoso cane. During the early 1960s, the BTI peasants' organization effectively resisted the system of tenure imposed on them, and regional entrepreneurs leased some of the cane holdings. During the late 1970s the local government and the mill expanded cane production into the dry-land area on the lower spurs of Mount Kawi. In 1991 cane producers planted cane on

20% of the wet land and on 65% of the dry-land, totalling 46% of the arable land in the village.

Sidodadi, located in the alluvial zone with young volcanic soils, was founded around 1830 by Islamic farmers who planted food crops and sugarcane on the dry land. The cane was processed into brown sugar and sold to traders in Gondanglegi and the city of Malang. PG Krevet Baru introduced the *glebakan* tenure system and mill managed Reynoso cane production for communal-owned irrigated land, of which there was only 25 ha in Sidodadi. Although irrigation of the dry-land in Sidodadi later became possible through the construction of the Kedung Kadang system, the mill continued to rely on the landowners' willingness to rent them their inherited private holdings in the former *tegal* area. In the post-independence period, NU farmers' leaders opposed any mill involvement in sugarcane production and forced the mill to rely only on outgrowers' cane. Between 1950 and 1970 local sugarcane patrons gradually shifted from processing brown-sugar processing to selling their cane to the mill. Smallholders followed them, shifting to cane production. In 1991, 81% of the irrigated area was planted to cane.

Table II.1 Characteristics of research locations for agro-ecological zones and agrarian structure

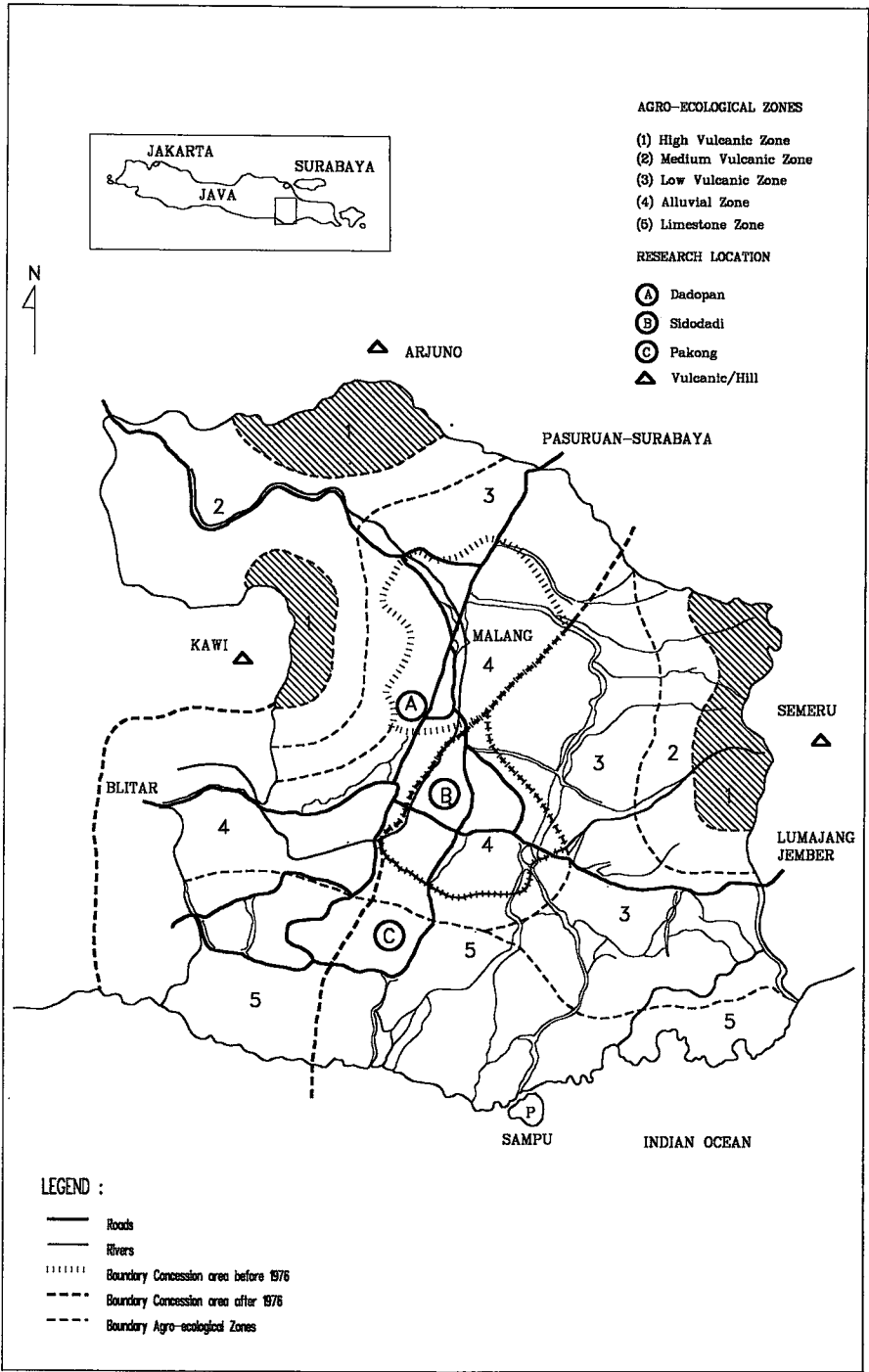
Village	Sub-district	Altitude	Population density	Land-use type	Planted with cane	Landlessness
Dadapan	Pakisaji	400 m	968 km ²	<i>sawah/tegal</i>	46%	56%
Sidodadi	Gondanglegi	250 m	1363 km ²	<i>sawah</i>	81%	54%
Pakong	Bantur	350 m	582 km ²	<i>tegal</i>	37%	24%

The third village, Pakong, is located in the South Malang limestone area. Around 1830 the first Javanese settlers moved into the more fertile areas of what is now Pakong. In 1884 the colonial government issued long-term leaseholds for the remaining wasteland to foreign entrepreneurs, who wanted to develop coffee estates there. Later many planters shifted to rubber production and a British company obtained control over a large estate in the area, producing rubber and coffee. Of this latter estate, 240 ha were in Pakong. After independence the local elite divided the estate's holdings and some families that succeeded in obtaining large plots introduced sugarcane production there, initially producing brown sugar. When, after 1965, the infrastructure improved, they sold their cane to PG Krevet Baru. In 1991, 37% of the arable land was under cane and on the rest food crops were grown.

Population densities in the three villages reflect their economic potentials. Dadapan has 981 inhabitants per km², which is higher for the irrigated area than for the dry land. In 1991 56% of its households were landless and engaged as labourers in cane production or in the urban economy, as Dadapan is located only six kilometres from the city of Malang. Sidodadi is part of a regional service centre, which contributes to its high population density of 1362 inhabitants per km². In 1991 54% of the households there were landless and many of the inhabitants are engaged in the service sector and in cane production. As is common in the limestone zone, population density and landlessness in Pakong, the last village, are relatively low, respectively 582 per km² and 24% of the households. Obviously population density correlates with economic potentials which are affected by the farming potentials of the agro-ecological zone and by access to non-farm activities near the village.

The landlessness figures give an indication of the unevenness with which land resources are distributed, and it seems that cane production has contributed to this skewed distribution. Remarkably different proportions of the households in the three villages cultivated cane. In Dadapan only 85 out of 650 farmers or 14% did so, while in Sidodadi and Pakong this was respectively 305 out of 530 (58%) and 277 out of 950 (29%). In Dadapan non-resident cane producers controlled about 67% of the landholdings under sugarcane. In the other two villages, non-resident producers controlled respectively 20% and 29%.

Map 5.1 **Map of the Malang district with the mills' procurement areas, agro-ecological zones, and research villages**



5 DADAPAN: A VILLAGE UNDER THE SMOKE OF THE KEBON AGUNG MILL

In Dadapan PG Kebon Agung and the colonial government introduced sugarcane production in the sawah area at the turn of this century. The mill rather than the farmers grew the crop on land it leased from the communities. Nowadays the mill still cultivates cane in the village on land it rents from the community. However, local and regional cane growers control a much larger cane area both in the wet-land and particularly in the dry-land area.

In this chapter the organization of sugarcane production in Dadapan will be discussed. After a description of the ecological and historical context of cane production, contemporary socioeconomic conditions and the organization of cane production are described. This is followed by an analysis of the social relations of production, dealing with institutional arrangements, actors' strategies in land tenure, labour, credit and marketing relations. The final section discusses conflicts of interests and the strategies used by actors at the local level to prevent and control these conflicts.

5.1 Cane Production in Rice-growing Communities

The village of Dadapan is located in the sub-district Pakisaji, about six kilometres south of the city of Malang, at the border of the Kawi mountain range and Malang's alluvial plain. The village consists of three hamlets; two long-established ones at the eastern side of the Baban river and one more recently formed hamlet on the other side. The two long-established hamlets, Tambaksari and Ngatisari, which are located in the alluvial plain, have both long been involved in growing paddy and other secondary food crops. The colonial government, during the Cultivation System period, forced the farmers to plant coffee in the dry-land area across the Baban river. Dadapan is a Javanese community and there are religious differences between the hamlets. Around 1830 some Islamic men from Madura and the north coast of Central Java intermarried with elite families in Tambaksari. In Ngatisari families intermarried with members of a small neighbouring Hindu community. As a consequence, Tambaksari leans more towards Islam and Ngatisari tends to be syncretic. This, as will be seen later, also had political consequences; in Tambaksari the NU organization dominated, while in Ngatisari organizations affiliated with the nationalist and communists parties were predominant. More recently, in both hamlets landowners, tenants, and especially agricultural labourers moved to the dry-land area across the Baban river, and established a new hamlet called Baban.

Tambaksari is a planned hamlet and the other two hamlets are ribbon-like settlements. Tambaksari and Ngatisari are situated on an alluvial plateau and are bordered by two southward flowing rivers, the Baban and the Metro river. Both hamlets are surrounded by *sawah*. Tambaksari is the core settlement with houses built along side-streets of the main road. Ngatisari is located along the main street leading to Tambaksari while Baban lies on the lowest spurs of the Kawi mountain range, which slope gently westward from an elevation of 500 to 350 meters. Like Ngatisari, Baban is also a ribbon-like settlement.

Dadapan has about 318 ha arable land of which one third can be irrigated. About 82 ha in the alluvial area is irrigated by the technical Metro irrigation system, and another 35 ha through locally constructed irrigation systems. The dominant soil texture in the irrigated zone is clay, formed by waterborne sediments from the Kawi mountain range. The dry-land area at the western side of the Baban river covers around 200 hectares, of which only some small plots are irrigated from the westward flowing streams.

The climate in Dadapan is warm with high levels of rainfall. The mean annual temperature is 25° C and the average rainfall is about 2800 mm, spread over five wet months with more than 200 mm rain per month, three months with between 100 and 200 mm rain, and four dry months with less than 100 mm rain.¹

Rice and secondary food crops were the major crops farmers planted before sugarcane production was introduced around 1908. The Tambaksari and Ngatisari hamlet communities at that time already operated small-scale irrigation systems which the colonial government linked to the large-scale Metro irrigation system around 1908. The farmers planted paddy on the irrigated land, often in combination with a secondary food crop such as maize, sweet potatoes or beans. They also planted these secondary food crops in the dry land area, often along with dry-land rice, cassava and perennial crops.

The community had different ownership systems for *sawah* and *tegal* land. *Sawah* holdings were either communally (*tanah gogolan*) or privately owned (*tanah beran*). Communal *sawah* were irrigated by the Metro irrigation system, while the other received water from wells or simple village irrigation structures. The usufruct rights to communally owned *gogolan* land were distributed by the village head among *gogol* holders, who were residents descended from the village's founders. In exchange for their tenure rights they had to pay land tax and perform labour services, such as the maintenance of infrastructures like roads, irrigation and drainage. When a *gogol* holder was unable to meet these obligations the village head passed the *gogol* to another villager. The area a *gogol* holder could control was limited to 0,75 to 1,50 hectare *sawah*. Around 1910 only 24 households in Dadapan held the usufruct of a *gogol*. *Tanah beran* land holdings were small and the village government excused the owners from *corvee* labour, but charged land taxes.

Tegal land was individually heritable (*yasana*) and could be freely sold. Under this system of tenure, the family bringing forest land into cultivation could claim it as a heritable holding over which village officials had no authority.

Families with larger farms had share-cropping arrangements for food crop production with the landless households. For *sawah* they used the *maro* system and for *tegal* the *majeg* system. Under *maro* arrangements, the tenant was responsible for all expenses of labour and agricultural input, and the landlord and tenant shared the yields equally. Under the *majeg* arrangements on *tegal*, the owner was responsible for agricultural inputs and the tenant only for labour. Under the latter arrangement, the tenant received between 1/4 and 1/3 of the yield.

Dadapan was socially stratified, based on the land tenure systems. Accordingly, the inhabitants distinguished three categories among themselves: *gogol*, *kendong kenceng*, and *kendong tumpang*. The upper stratum were *gogol* holders, who besides the usufruct rights for a *sawah* holding, also owned a house plot with a house in the village settlement. They also could own *tegal*, tended to be descended from the village founders, and had the right

¹ This information was obtained from the head of the agricultural department in the Pakisaji sub-district. The climate would be classified as C3/low land in Oldemans (1975) definition of agro-climatic zones.

to participate in the election of a village head.

Members of the middle stratum, *kendong kenceng*, had no access to *gogol*, but controlled a dry-land holding, a house and a house plot, although not necessarily within the hamlet boundary. Landless households, who either borrowed or constructed a house on the house plot of another villager, were the lowest stratum, *kendong tumpang* (*tumpang*, to stay or live with), working as farmhands or share croppers for members of the upper strata. Only members of the middle stratum could be considered as candidates for a *gogol*.

Around 1905 PG Kebon Agung introduced the *glebakan* tenure system for *sawah*, using a communal tenure system. They did this by annually renting one third of the *gogol* holdings from the village head. From 1910 on, the mill annually rented 10 ha from Tambaksari and another 15 ha from Ngatisari through a *glebak-3* system.² Later the mill introduced a *glebak-2* system for Tambaksari and also included the *tanah beran* holdings around Tambaksari in it. The mill paid the rents to the village head, who, after deducting the land tax, paid the balance to the *gogol* holders. This arrangement met with little opposition in Dadapan. The *gogol* holders organized their food crop production around the mill's changing land needs and the land-use potentials of their holdings.

In Dadapan the mill used the labour-intensive Reynoso production system. At the end of the rainy season, between May and June, the mill obtained access to all holdings in a section (*glebak*). The mill's field staff dug a drainage system in the wet-lands and planted cuttings (*bibit*) in the furrows. They also used these drainage canals for irrigation during the dry-season. The plant-cane was intensively tended for 14 to 16 months, when it matured and could be harvested. To transport the cane, the mill laid permanent rails as far as Ngatisari to which temporary rails were connected, leading into the sections planted with cane.

Initially, PG Kebon Agung recruited cane workers through the village head but later this task was delegated to local field overseers (*mandors*), Javanese farmers trained as supervisors for Reynoso cane production. These overseers cooperated with the village head in recruiting cane workers. Later the mill also employed some sons of the elite families in Dadapan as overseers. The overseers recruited their own labourers and supervised them during cultivation and harvesting. They had their own strategies through which to tie landless labourers and tenants to them to work in the cane fields. The overseers were relatively autonomous in spending the budget for labour costs. This made it attractive for them to combine their positions as overseers with that of labour broker, providing advance payments and credit in order to have access to cheap, indebted labourers.

In summary, estate cane production was introduced during the colonial period. The mill obtained access to the community's *sawah* holdings through the administrative elites, who used their authority over the allocation of communal land to introduce the *glebakan* tenure system. The mills practised the productive Reynoso production system for which it trained local overseers, making it lucrative for them to recruit labourers on their own account. The community finally adjusted its agricultural activities to meet the regulations imposed by supra-local authorities.

The Japanese occupation and developments since then have brought considerable changes

² In the *glebak-2* system the *sawah* holdings are divided into two sections (*glebak*) and in the *glebak-3* system into three sections. The division was usually made on the basis of the water management system, to reduce tensions about land and water between the community and the mill. The mill annually leased a new section; in the first system the *sawah* holdings were leased every second season and in the latter every third.

to Dadapan. Owing to Japanese instructions that food crops, rosella, and castor beans³ be cultivated, the cane area in the village decreased and the communal tenure system for *sawah* was abandoned in practice. After the Japanese defeat, political divisions in a newly independent Indonesia were felt in Dadapan as well. The village head in 1945, following the lead of supra-local officials, allied himself with the PNI, the nationalist party. Islamic leaders, especially in Tambaksari, both organized a local branch of the Masyumi party and founded a chapter of NU. The communists, finally, through their affiliated peasant organization BTI, established links with informal leaders in Ngatisari. Elections for village head in 1948 saw the participation of the various political groupings, but in the end led to the victory of the PNI candidate with kin ties in both the Tambaksari and Ngatisari hamlets.

After 1949 PG Kebon Agung reintroduced the *glebakan* tenure system in Dadapan, in which it experienced little local opposition. Both the leaders of the nationalist and Islamic parties acted as local agents for the mill. Dadapan's village head was interested in commissions which he received from the mill when he acted as their middle man, and the NU leaders had an interest in the wage funds they controlled as local overseers for PG Kebon Agung. As was mentioned earlier, the communal tenure system was *de facto* abolished during the Japanese occupation.⁴ *Gogol* holders opposed interference in inheritance matters by the village head. Little opposition emerged when the village head assisted the mill in renting *sawah* holdings, as long as he kept the interests of the individual land-owners in mind.

Outgrowers cane production emerged in Dadapan only during the early 1960s. In 1958 the KPTR cooperative was founded into Pakisaji sub-district and in Dadapan a village secretary was appointed as the organization's commissioner. The financial crisis of the late 1950s made it more attractive for peasants to plant food crops, rather than renting their *sawah* to the mill. The BTI supported the implementation of the 1960 Agrarian Law, which *de jure* transformed the land ownership system for the *sawah* area. The organization also backed the peasants in their protest against village officials who wanted to expand their salary land and used coercive strategies to lease their irrigated land to the mill. In 1962 the mill had to abandon their *glebakan* tenure system, leaving the farmers free to decide on the utilization of their land themselves. In Ngatisari the majority shifted to intensive paddy production and in Tambaksari some landowners, who were engaged in non-farm activities, preferred to rent out their cane holdings; three traders from Bululawang, a Chinese and two hajji, cooperated with the village head to rent them. These traders involved the local overseers engaged by PG Kebon Agung in supervising the field operations on a contract basis. Credit was obtained from KPTR-Pakisaji, through the village officials.

The elimination of leftist organizations after 1965 produced several victims in Dadapan. The NU youth organization GP Ansor there, in coordination with the military officials in Pakisaji, arrested and executed the local leaders of the BTI peasant organizations in Ngatisari. The PNI village head had to resign for political and financial reasons. A leader

³ Rosella (*Hibiscus Sabdariffa*) was an important substitute for jute and was even used to make clothes. The seeds of the castor beans or *jarak* (*Ricinus Communis*) contain a high amount of oil, which was used for industrial and medical purposes (Ilaco 1981).

⁴ The implementation of the Agrarian Law of 1960 led to an official transformation of the *gogolan* system into private, heritable holdings. The law was implemented in 1963 and led to tensions between the village officials and the farmers concerning the size of the salary lands (*tanah bengkok*). The officials tried to increase these on the basis of national regulations but this was opposed by the landowners and the leaders of the BTI peasants' organization.

of the local NU chapter, Ismail, who had been an overseer for PG Kebon Agung between 1950 and 1967, was elected as new village head in 1966.⁵ Ismail took an interest in the mill's involvements in his village. Starting in 1968, PG Kebon Agung again rented *sawah* land in Tambaksari on which to produce cane cuttings. However, the mill did not re-introduce the *glebakan* tenure system.

In Pakisaji the outgrowers' organization came under the control of regional NU leaders. In 1966 its leadership was screened by the district government, which sacked all whom they suspected of leftist sympathies. The fired personnel was replaced by regional NU leaders. In 1966 hajji Qomar of Pakisaji became responsible for the outgrowers' cooperative. He cooperated intensively with the Chinese sugar broker Samsul in buying sugarcane and sugar certificates for the outgrowers. In Dadapan, a NU supporter who operated a relatively large farm, replaced the village secretary as commissioner for the KPTR organization, a position he occupied from 1966 until 1976.

To summarize, during the transitional period no opposition to the estate form of sugarcane production initially emerged. The financial crisis of the early 1960s, the Agrarian Law, and local actions by the communist farmers' organization caused the disintegration of the *glebakan* system. When individual landowners became free to decide on the utilization of their holdings, the smallholders returned to food crops. Initially only some non-resident traders continued to rent cane land in the sawah area, engaging the mill's overseers to organize the field operations. Later, a few local farmers controlling larger holdings in both the *sawah* and *tegal* area, followed their example. The farmers in the accessible *sawah* area sold their cane to PG Kebon Agung, and those in the isolated *tegal* area processed it into brown sugar. After 1966, the mill also rented *sawah* land from individual land owners in Tambaksari, but did not re-introduced the *glebakan* system there.

The introduction of the TRI programme increased the influence of the local government over outgrowers' organizations. In 1976 the village head of Dadapan formed a TRI group and replaced the NU commissioner with his own brother, who worked as PG Kebon Agung's overseer. The outgrowers' cooperative in Pakisaji was reorganized as well: it was amalgamated with the government controlled BUUD cooperative into the KUD Pakisaji, increasing the *camat*'s influence on the cooperative. Together with the police and army officers he appointed retired government officials to replace the NU supporters who had managed the old KPTR cooperative.

When in 1976 the mill increased its capacity, the sub-district and village leaders helped to expand its cane area. In Dadapan three local farmers introduced cane production on dry-land, but the absence of roads on which to transport the cane forced them to process the cane into brown sugar. In 1977 Kebon Agung needed extra cane and rented all the *tegal* in Dadapan for two seasons, a transaction that was mediated by the *camat* and the village head. However, peasants and share tenants opposed this transaction; they wanted to continue their subsistence farms and refused to pay 50% of the rent for the construction of roads and bridges. The district leader (*bupati*) personally interceded in this conflict. He proposed that the landowners pay 25% of the rents they received to the village government for the

⁵ Villagers respected Ismail because he had served in the Islamic militia against the Dutch and his father had fallen during the first Dutch military action in 1947. Ismail's father originally came from Madura and married a descendant of one of the founders of Dadapan. He worked as an overseer for PG Kebon Agung and arranged for two of his sons and a cousin to be trained and employed as overseers by the mill as well. Ismail's brother-in-law was the leader of an Islamic school (*Madrrasah*) in Dadapan.

construction of three bridges that would make the hamlet accessible by truck.⁶ In the *tegal* area share croppers and tenants lost their holdings and to survive they had to contract their labour to the mill's overseers. Not all smallholders used the money wisely. To stay alive, indebted smallholders had to sell their cattle, contract their labour, or lease their cane holdings to entrepreneurs for several seasons in advance. These entrepreneurs were three local patrons, as well as some patrons at the sub-district level, who cooperated with Samsul, the Chinese sugar broker. They continued to ratoon the crop after the arrangement with PG Kebon Agung expired in 1979 and employed their clients (tenants and debtors) as waged cane workers.

Until 1979, non-resident entrepreneurs mainly benefitted from the credit funds distributed by the local TRI group. A local teacher observed that non-residents rented cane land in Baban and tried to promote cane production by local farmers. He formed a coalition of local farmers who wanted to ratoon the cane which the mill had abandoned. The group registered as a TRI group and for the 1979/1980 season they applied for and obtained funds for 50 ha sugarcane. The village head and the teacher got into a conflict about the rights and obligations of a village head in general, and specifically in relation to the administration of credit of TRI groups. Since the teacher objected to any interference, Ismail called him a radical nationalist, and accused him of combining income bearing positions as a teacher, farmer and TRI group chairman. In 1982 a journalist for the regional newspaper quoted an informal statement by the teacher about the sub-district leaders and the village heads who tried to manipulate TRI credit funds. The sub-district leaders (*Muspika*) forced him to resign, and Ismail's unemployed brother replaced him as chairman.

The new TRI chairman and the village head then began to use the TRI credit funds for private projects. Ismail tried to imitate a common practice among his colleagues in neighbouring villages: introducing fictive area,⁷ paying out only a part of the money to the smallholders. Ismail and his client used the funds for their private cane trade and for a poultry project he wanted to start with a Chinese entrepreneur. The smallholders became hesitant to receive TRI credit because they feared manipulations in its administration. Additionally, farmers liked more flexible credit arrangements, such as those offered them by TRB cane brokers. Also, the cooperative did not pay out all the credit funds to TRI cane producers; the money withheld was lent to officials and traders at the sub-district level. Between the 1981/'82 and 1985/'86 seasons, the TRI group in Dadapan accumulated a debt of Rp. 43 million as a result of this mismanagement, and in 1987/'88 the cooperative had to admit to a debt of Rp. 117 million on the TRI programme.

Initially the local government tried to hide the debt problem. In 1989 a team, composed of provincial and district officials, investigated and found that the debts were higher than expected. The team also visited Dadapan and interviewed Ismail and cane growers who had debts to their name; the chairman of the TRI group, Ismail's brother, went into hiding. In

⁶ The smallholders and tenants opposed this on two grounds; it interrupted their subsistence food crop farming systems and they feared becoming indebted because of food and cash shortages. Landowners refusing to lease their land risked being criticized for opposing the governments' development effort. Aside from 25% of the rents, the village officials obtained extra material and financial assistance from the mill. Of the three bridges, only one was actually built across the Baban river. The inhabitants of Baban constructed it together with about 6 km of road, using communal labour arrangements.

⁷ In the administration TRI credit funds were distributed for plots planted with food crops or TRB cane. The funds obtained for this fictive areal were used for speculation in TRB cane, for example.

the end it turned out that Ismail and his siblings had caused the debts in Dadapan. The chairman of the TRI group was replaced by another cousin of Ismail's. One extra TRI group was formed in the Baban hamlet, headed by two local patrons. The Surya newspaper reported on 8 december 1990 that inspection team found manipulations totalling Rp. 356 million at KUD Pakisaji. The cooperative was excluded from receiving new TRI credit funds for two seasons, forcing PG Kebon Agung to arrange TRI credit for the cane growers, and effectively shifting their allegiance to themselves. In 1990/91 the KUD Pakisaji was again allowed to administer TRI credit, under the tutelage of the cooperative from the Pakis sub-district.

To summarize, the mill in cooperation with the village government, introduced the *glebakan* tenure system for the communally owned *sawah* area. There it produced Reynoso cane, with short interruptions during the Japanese occupation and the 1960s. After independence, political parties tried to establish links with local leaders; the NU was the dominant organization in Islamic Tambaksari and the BTI was prominent in Ngatisari, where it successfully organized the peasants' opposition against the *glebakan* system. After 1965 the military and NU eliminated the leftist organization in Dadapan and Pakisaji. NU leaders then dominated the village government and the cane outgrowers' organization, but these leaders later shifted to Golkar or were replaced by Golkar leaders. Regional entrepreneurs initially ratooned the cane abandoned by the mill, both on the *sawah* and *tegal* area, an example later followed by local patrons and smallholders. These, however, depended on TRI credit funds, which the village head manipulated for his private interests. This nepotism practised by government officials resulted in debt debacles, both at the village and the sub-district levels.

5.2 Current Socioeconomic Conditions

After this description of the historical and local political setting of cane production in Dadapan, we now briefly shift to contemporary economic and political conditions. In 1991 Dadapan had 4234 inhabitants living in 998 households, of which 650 households relied on agriculture for their living. In 1988 about 46% of the households in Dadapan were landless, in the sense that they owned neither *sawah* nor *tegal* land. About 20% of the households did not even own a house plot (PPIIS 1988:142).

In 1991, agriculture was still the major source of income in the village, sugarcane, rice, maize and sweet potatoes being the dominant crops. In 1990/1991 farmers planted about 160 ha sugarcane, 80 ha rice, 80 ha maize and beans, and 25 ha sweet potatoes. In the *tegal* zone, sugarcane is now the dominant crop, while in the *sawah* zone paddy and cane cover about the same acreage. In 1991 paddy lost its dominant position on *sawah* to cane because rice producers had problems with rodents control, and the mill rented *sawah* in Ngatisari. Livestock is of minor importance; few cows are kept for beef production or as draught animals and only chickens and ducks are kept for eggs and meat.

In Dadapan off-farm and non-farm employment opportunities are limited to cane working, construction, petty trade, and shops. In all three hamlets there are several artisans, such as bricklayers or carpenters, and women who manage shops (*mracang*) or food-stalls (*warung*), where they sell basic consumer goods and snacks. Bricks are produced in two neighbourhoods in Tambaksari and during slack labour periods poor households in Baban collect firewood and sell it to brokers (PPIIS 1988:142).

An increasing number of households live in Dadapan but work in the industrial or service

sector in Malang. Early in the morning, young men bicycle to urban labour markets, where brokers recruit their construction or transport workers. One hour later men and women leave the village to work in industries, offices, shops, where they are more permanently employed. Men predominate in construction and work as porters, while women work in the cigarette and candy industries. Several male villagers work as permanent or seasonal labourers at PG Kebon Agung. Others are involved in the informal sector, operating as petty-traders or as dealers in bicycles and motors.

Besides commuting, circulating and international migration have grown in importance in Dadapan. In 1992, 20 young men migrated to Bandung and Bali and 10 young women moved to Surabaya. In Bandung the men work as food hawkers or trade in the informal sector, and in Bali they trade or work in the textile industry. In Surabaya the women work in shoe and tile factories, or as domestic servants. International migration is still of limited importance; two young women recently departed to Saudi Arabia on three-year contracts as domestic servants. The magnitude of the migration of men to Malaysia is kept secret, since it is illegal.

In 1991 a new village head was elected, succeeding Ismail whose prestige had declined sharply after the debt debacle. Villagers further complained about Ismail's poor administration of tax and cadastral services. They often asked H. Anwar, the village *ulama* and chairman of the LMD (*Lembaga Musyawarah Desa*: village consultation board), to mediated in their conflicts with Ismail. Ismail's son and cousin both stood for the position, together with a young female teacher; all passed the screening by the district government. Some educated and informal leaders, consisting of teachers and smallholders, formed a faction to campaign for Mrs. Hesti, also enrolling the local leader of the Muhammadiyah and H. Anwar. The latter was a pensioned cane overseer and also one of the two NU leaders in Dadapan. The other local NU leader was related to Ismail, and formed a coalition with the hamlet leader and patrons in Baban to campaign for Ismail's son and nephew.⁸ However, the low educational background of these men and Ismail's abuse of power, which many villagers saw as the cause of the stagnation of the local economy, became the two central issues in the campaign. On election day, Mrs. Hesti obtained 78% of the votes, while Ismail's son and nephew received respectively 17% and 5%. Many villagers saw this as a clear reprimand of Ismail and his kin group.

To summarize, agriculture was still the major source of income in Dadapan. The relatively labour-extensive sugarcane was the dominant crop in *tegal* area and in 1991 also defeated rice as major crop in the *sawah* area. Besides brick production and petty trade there are few potentials for non-farm employment in Dadapan. Because Dadapan is close to the urban labour market commuting is prominent. Men work as casual labourers in construction and transport, and women on more permanent arrangements in industries and shops. In 1991 the Dadapan communities punished the former village head's clique for the stagnation in the local economy they had caused through poor public services and the misuse of power.

⁸ Ismail's brother-in-law competes with hajji Anwar for the local leadership of NU. He leads an Islamic school (*Madrasah*) but has only a few students. H. Anwar is the leader of the village mosque, who leads the Friday prayer and organizes the discussion groups (*tahlil*) both for men and women. Villagers also asked H. Anwar to lead rituals, such as *selamatan*s (religious meals), weddings and funerals.

5.3 The Contemporary Organization of Sugarcane Production

In this section I will first discuss those organizations at the village level that are directly or indirectly related to the organization of sugarcane production. This is followed by a treatment of the major types of operational production units. In the final paragraphs, the operational units of cane cutting will be dealt with.

Since the ascent of the New Order government, central regulations have been issued concerning the organizational structure of villages and their administration. Villages are divided into hamlets (*dusun* or *dukuh*), which are in turn sub-divided into neighbourhood groupings RKs and RTs (*Rukun Kampung* and *Rukun Tetangga*). The chairmen of the RK and RT are closest to the villagers, since they are nominated by them. These positions are less than popular because it involves a lot of work without any remuneration. The village head is elected by the villagers, subject to the bupati's approval. All other village government officials are appointed by the village heads, subject to the *camat*'s approval.⁹

The government also introduced development oriented organizations at the village level. These included LKMD council (*Lembaga Ketahanan Masyarakat Desa*; village resilience board) and the LMD council, the purpose of which was to facilitate the community's participation in village planning and policy issues. Both institutions are firmly controlled by the village heads, who select the members and chair the meetings. In 1991 H. Anwar was the chairman of the LMD and Sahir, a cousin of the former village head, chaired the LKMD.

The New Order regime imposed monolithic farmers' groups (*kelompok tani*) at the village level, for extension and credit purposes.¹⁰ In Dadapan H. Anwar, Mariono and Darwis are the chairman, secretary and input coordinator of the group. Mariono is a teacher in Baban and also active in cane farming. Like H. Anwar, Darwis' father worked as an overseer for PG Kebon Agung, and Darwis still works five months a year as harvest overseer for this mill. Three sub-groups function under the farmers' group; two TRI groups (*kelompok TRI*), coordinating the TRI credit programme for sugarcane, and one agricultural input group (*kelompok saprodi*) which coordinates the credit programme for other products, such as paddy (Bimas). Sahir and H. Rochmat lead the TRI groups in Tambaksari/Ngatisari and Baban. Darwis is in charge of the agricultural input group.

In 1991 the coalition of the new and former village heads struggled for the public positions in Dadapan. Ismail refused to transfer the tax and cadastral administration and Mrs. Hesti had to make a new inventory of the land ownership situation. The hamlet leader of Baban, who was an adopted son of Ismail, first refused to cooperate with Mrs. Hesti, but changed his mind after the new village head approached informal leaders to replace him. Ismail campaigned against Mariono in order to maintain Sahir's positions as chairman of the LKMD and the TRI group, hoping to repay his debts to the TRI programme through him. The *camat* and the military leader (*danramil*) adjudicated in the conflict and finally arranged for Ismail to move to another village in the sub-district.

⁹ Positions in the village government include village head, village secretary, hamlet leaders of Baban and Ngatisari, head of governmental affairs, head of social welfare, head of developmental affairs, head of financial affairs, head of water distribution, and head of religious affairs. The first eight officials enjoy usufruct rights to *tanah bengkok* as a salary, which in 1991 were 2.5 ha, the smallest in the sub-district.

¹⁰ To make agricultural extension more effective and less biased towards the richer farmers, a group approach was used. The leaders of the farmers' group (*kelompok tani*) are the target group for the extension workers and are expected to disseminate the information among the group members.

The committee members of the farmers' group, which also included the chairmen of the TRI groups, acted as representatives of the Dadapan farmers in supra-local farmers' forums. H. Anwar and Mariono attended meetings conducted by officials of the Ministry of Agriculture for the farmers' groups and for the HKTI (*Himpunan Kesatuan Tani Indonesia*; Indonesian Association for Farmers' Unity), both at the sub-district and district levels. All committee members of the farmers' groups attended and had voting rights in members meetings organized by the Pakisaji cooperative (*Kooperasi Unit Desa*). The leaders of the TRI groups also attend meetings of TRI institutions at the sub-district level which the *camat* and the mill field coordinator organize to coordinate the TRI credit programme and the cane harvest.

The NU organizes regular prayer and discussion groups (*tahlil*) for men and women. For men these meetings take place at the hamlet level and are organized by the religious leaders, H. Anwar in Tambaksari, H. Rochmat and another patron in Baban, and the *ulama* in Ngatisari. Monthly the women meet for prayer which they combine with a savings-lottery (*arisan*). The men often discuss current issues in local politics after Friday prayers in the mosque and after evening prayers in the patrons' prayer houses (*langgar*).

PG Kebon Agung field staff are responsible for mill-managed cane production and for guiding outgrowers-managed cane. The officials of the estate section coordinated several field supervisors (*sinder*), who in turn supervised several cane overseers (*mandor tanaman*). In the outgrowers section, a rayon head is in charge of one or more sub-districts and supervises the field supervisors (*sinder*). The supervisors are responsible for the organization and guidance of outgrowers cane in some villages or one sub-district. A field supervisor coordinates some extension workers (PPL PG: *Petugas Penyuluhan Lapangan Pabrik Gula*) who are responsible for the guidance and administration of TRI programmes and groups at the village level. All supervisors, extension workers and the majority of the cane overseers have the status of mill employees, others work on seasonal basis, like the harvest overseers who have six month labour contracts.¹¹

Table 5.1 Cane area controlled by the cane growers categories in 1991

Types of production unit	N	%	Farm-size	Cane area	%
Smallholder family farms	29	28	0.39 ha	10.9 ha	7
Smallholder farms	57	54	0.94 ha	53.8 ha	35
Local patrons	6	6	5.32 ha	32.0 ha	21
Non-resident patrons	10	10	4.34 ha	43.4 ha	28
Mill overseer production units	3	3	6.66 ha	13	9
Total	105		1.46 ha	153.1 ha	

Source: Author's census of the cane producers

About 50% of the cane planted on irrigated land in 1991 was managed by the mill, for the production of cane cuttings (*bibir*). PG Kebon Agung has a centralized structure in which the senior managers decide on the organization of production and the production techniques. The

¹¹ Every second year the government sponsored trade union (SPST) negotiates the labour and social arrangements for the permanent staff with the mill's manager. The mill makes insurance and pension arrangements for its employees, but for seasonal labourers in the field and mill they pay an allowance of respectively two and three months salary to compensate for the lack of social arrangements.

manager and assistant manager for cane production instructed their subordinates to use the labour-intensive Reynoso cane production technology. As I will show later the mill transfers the responsibility for recruitment and social control of the labour process. Using this policy the mill creates isolated operational units of cane production in which the overseers are personally responsible for labour relations. They have made it financially attractive for the overseers to recruit cheap but reliable labourers by building up a network of dyadic patron-client relations with indebted cane workers. Thus, on the one hand the overseers stand on the lowest level in the mill's hierarchy, from which they receive orders about technical regulations. On the other hand, they are labour brokers trying to control the labourers socially and attempting to maximize the margin between the budgeted and actual expenses for labour. In this way, by making its overseers individually responsible for labour relations, the mill protects itself from labour conflicts.

For outgrowers managed cane, four types of production units are distinguished: the smallholder family farms, the smallholder farms, the local patron enterprises, and the non-resident patron enterprises.¹² The smallholders were numerically predominant (84%) but controlled only 42% of the cane area.¹³ The other 16% of the cane producers, the patrons and the mill, controlled 58% of the cane area. The local and non-resident patrons controlled an average of 5.32 and 4.34 ha cane land in Dadapan. However, the latter's average farm size is 18 ha when the holdings they controlled outside Dadapan are considered.

In 1991 non-resident cane producers were still quite prominent in Dadapan. 82 local cane producers cultivated 84.8 ha or 55% of the sugarcane planted there and seven ha outside the village. 23 non-resident cane producers controlled 68.4 ha or 45% of the cane in Dadapan, an average of 2.97 ha per producer. Of these producers, six were cane brokers-patrons, four were patrons, three were the mill's overseers, and ten were smallholders living in neighbouring villages.¹⁴

In outgrowers cane production there are two type of linkage for credit-marketing arrangements. The majority of the cane producers obtain capital for cane cultivation from the TRI institutions, the TRI group and the cooperative, which imposed trading and harvest restrictions on that cane. A minority of the cane producers, particularly the regional patrons, additionally obtain working capital from commercial banks and cane brokers. These brokers finance cane production through their agents, who mainly live in Pakisaji.

Who were these non-resident patrons? Four of them started as overseers or agents for Samsul, a Chinese sugar broker and cane contractor from Malang. Samsul cooperated

¹² The distinction between the first two types is based on the labour recruitment strategy; the first recruit only family labour and the second both family and casual labour. Patrons adjust the organization of their production to the logic of the land, labour, and cane markets. They have organized teams of permanent cane workers (*kuli pasten*), both for cultivation and for harvest. Local and non-resident patrons' production units differ in their labour arrangements; the latter involve foremen and overseers to coordinate the teams of cane workers whereas the former do not. Locally three categories of production units are distinguished, namely smallholders (*tani tebu*), patrons (*juragan tebu*), and brokers (*cukong tebu*).

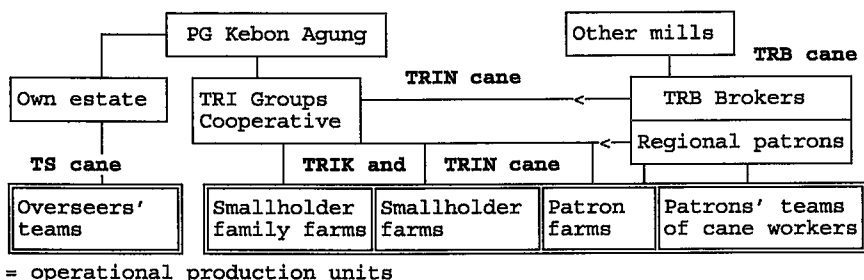
¹³ Cane growers who are old or engaged in non-farm activities on a full-time basis are difficult to place either in the smallholder or patron type. I place them in the first category because they have one or two client-cane workers rather than a team regularly working on their smallholdings.

¹⁴ The nine smallholders and one patron lived just outside Dadapan and cultivated 5.9 ha sugarcane in there. Six smallholders and one patron from Dadapan cultivated seven ha cane just across the village boundary. These cane growers managed their farms as one production unit.

intensively with the management of PG Kebon Agung and in 1979 leased the cane holdings in Baban's *tegal* area. Several of his overseers and agents have since established their own enterprises;¹⁵ they now borrow money from Samsul for cane production and trade, sell cane to Samsul, and manage cane for which Samsul has leased the land or which he has bought as a standing crop. In 1990/1991 five of his clients, who operated cane enterprises of respectively 150, 46, 30, 25, and 15 hectare, were still active in Dadapan. These regional patrons now have their own intermediaries in Baban. Beside Samsul, two other cane brokers (*cukong*) from the city of Malang had an overseer and a local patron operating in Baban, but the scale of their enterprises was much smaller than Samsul's.

Cane producers full-time involved in off-farm activities had to make arrangements for supervising the labour process. On 84 farms (80%), the male head of the household managed the cane. On seven farms (7%), the female head of household or the children did this. In 12 enterprises and the mill (12%), caretakers were appointed; either foremen (*kuli percaya*) or overseers (*mandors*). Non-resident entrepreneurs and two civil servants appointed a foreman to their teams of permanent cane workers, to whom they delegated the organization and administration of the work. Two regional patrons hired overseers, with whom they negotiated the labour contracts and to whom they delegated the responsibility for the labour relations.

Figure 5.1 Production units and linkages in sugarcane production



The organization of the cane harvest was linked to the cane's marketing channel. PG Kebon Agung gave the KUD Pakisaji and the TRI groups two options; either it was organized by the chairman of the TRI group or by the mill's overseers. In the latter case the mill cooperated with its official workers' union, the SPSI (*Sarikat Pemburuhan Seluruh Indonesia*; Indonesian General Workers Association).¹⁶ Both TRI groups in Dadapan chose for the mill's alternative, as the TRI group leaders did not own trucks to transport the cane. The mill's harvest overseers organized the cutting and loading of the mill's cane (TS) and that of local cane growers who received TRI credit (TRIK). The regional entrepreneurs had both permanent labourers and trucks and so organized the harvest of cane they cultivated or which

¹⁵ Hajji Sukri started as an overseer of Samsul's cane in the Pakisaji sub-district. He rented cane land for Samsul in Baban and he also mediated a tenure arrangement between Samsul and a community whose weir had collapsed. The community agreed to rent 80 ha *sawah* for a period of three years, in exchange for the repair of their weir. When Samsul had approved the transaction for a tenure period of two seasons, H. Sukri obtained the holdings free of rent for an additional ratoon crop.

¹⁶ In theory the harvest of the mill's cane was sub-contracted to the official labour union. SPSI has an office at PG Kebon Agung and all employees of PG Kebon Agung are members. In 1991 SPSI received a commission of Rp. 2 per quintal cane for lending its name to the mill's cane harvest operation.

they bought from other cane growers themselves. Mainly local patrons organized the cane cutting for the TRB brokers, on whose truck they then loaded it.

Occupational multiplicity was a common feature among households involved in cane production. Only 26% of them depended entirely on agricultural income and had neither off-farm nor non-farm sources of income. About 33% worked regularly as either agricultural or industrial labourers. In contrast to their older colleagues, the younger cane producers preferred non-farm work. 15% of the cane producers were petty traders and 20% operated trading or other enterprises, mainly related to the sugarcane sector. 5% of the producers worked as civil servants. There were striking differences between the producers in Ngatisari and Baban on the one hand and those from Tambaksari and outside Dadapan on the other. In Ngatisari and Baban, respectively 53% and 33% of the producers earned additional incomes as agricultural labourers. This was much lower in the other two categories, who were more often engaged in trade; those in Tambaksari in petty trade and those from outside Dadapan in sugarcane trade.

Two thirds of the women in the cane producing households worked only in the household and in family enterprises. 11% of them were employed in the public or private sectors, and the remaining 22% were involved in petty trade, such as kiosks and food-stalls.

In summary, in Dadapan internally and externally directed linkages were observed; the local cane growers' production units are placed under the former, and the mill and non-resident patrons directed under the latter.¹⁷ The mill has sub-divided their estate into production units managed by their employee-overseer, who gets his technical instructions and a labour cost budget from the mill. The mill provides financial incentives to its overseers to organize their private labour force, thereby avoiding involvement with labour conflicts. For outgrowers-managed cane production four types of operational units are distinguished on the basis of labour recruitment and production orientation: the smallholders' family farm, the smallholders farm, the patrons small-scale enterprise, and the regional entrepreneurs middle-scale enterprise. For outgrowers cane, the linkages are determined by credit arrangements to which trading restrictions are tied. In the official linkages, outgrowers cane is tied to the mill through the TRI group, the farmers' group, and the cooperative, and in the unofficial linkages through agents, patrons and brokers. These marketing relations also effect the organization of the cane harvest, which the mill organized for its estate and the TRI institutions, and the mainly the patrons for cane sold through the unofficial TRB linkages.

5.4 Implications of Sugarcane on the Social Relations of Production

In this section I will analyze the implications of the above mentioned organizational forms of cane production for agriculture in general, and for the social relations of cane production in particular. I will first analyze the production techniques used by the different production unit categories. Then I will analyze in four sub-sections the consequences of cane production for the local land tenure, labour, credit, and marketing relations.

Before cane production was introduced, farmers in Dadapan produced mainly for

¹⁷ In this study I make the distinction between 'internally' and 'externally directed linkages'. 'Internal linkage' was characteristic for brown-sugar production, and 'external linkage' for refined sugar production, to use Hirschman's concepts. I speak of 'internally directed linkages' when local cane producers organize cane cultivation in the production units for their own account and risk. I use the concept externally directed linkage when non-resident producers organize and take the risks of the production unit.

subsistence. The households produced irrigated rice where soil texture and irrigation facilities allowed them to do so. On the dry-lands they practised mixed farming, in which they combined annual food crops, perennials and livestock. Until 1962, *sawah* owners in Tambaksari and Ngatisari leased their holdings to the mill at regular intervals. This enabled them to obtain cash which, besides for subsistence needs, they also used for housing and education. In Tambaksari some land owners incorporate the lease system into their economic activities, which partly explains why they continued to lease their holdings after 1962.

Sugarcane has replaced food crops as the major agricultural activity in Dadapan. Irrigated rice and secondary food crop production (*palawija*) on irrigated land have been replaced by plant and ratoon cane, and mixed farming in the dry land area by ratoon cane. Farmers have given up the principle of multi-valency. Earlier I mentioned that the mill's policy of expanding sugarcane production on the dry-land area caused many smallholders to become indebted and lease their land or sell their cattle. Sugarcane production has led to a commercialization of agriculture, but also to an extensification of it. With some variations depending on the production techniques, cane production needs less labour than two food crops, but also more male than female labour.

In 1991 local cane producers still produced food crops on a small area of their farms. They planted 76% of their *sawah* holdings with cane and maize, paddy and sweet potatoes on the remaining 24%. Non-resident cane producers controlled almost only dry-land holdings and planted 95% of these with sugarcane and 5% with citrus, the latter being holdings that they owned. Resident cane growers planted 87% of their farm holdings with cane and the remainder with dry rice, maize, cassava and bananas. Local smallholders inter-cropped their ratoon cane with maize, obtaining high yields, especially on *sawah*.

The different cane production techniques are related to land-use categories and the type of linkages. In the *sawah* area PG Kebon Agung used the Reynoso system. Since its early days, the mill tried to obtain the highest sugar yield per hectare.¹⁸ In 1991 the mill's management still followed the Reynoso production technology strictly, and did not economize on labour expenses. The local cane growers cultivated both plant and ratoon-cane on the *sawah* area. They applied extra fertilizer to the cane and economized on field operations that in their experience did not have a positive impact on the yields. One side-effect of the expansion of cane in the *sawah* area, is that pest control for irrigated rice has become problematic.¹⁹

Almost all outgrowers used the ratoon techniques. Of the 140 ha outgrowers cane in Dadapan, 131 ha was ratoon cane and nine ha plant cane, during the 1990/1991 season. For *tegal* holdings, the smallholders and patrons used a capital extensive ratoon production technique, which gives moderate cane yields. These outgrowers tend to skip all field operations which did not have a direct positive impact on yields. The leaders of the farmers group in Dadapan and the TRI group in Baban owned nine ha plant cane (*ungaran*). They rejuvenated their low-yielding cane using two techniques.²⁰ Non-resident entrepreneurs were

¹⁸ 1956 was a golden year for PG Kebon Agung because it obtained an average sugar yield of 16.4 tons per hectare from their Reynoso cane (PG Kebon Agung 1978).

¹⁹ Nowadays holdings with wet-rice are enclosed by cane plots, which complicates the control of rats, birds, and insects.

²⁰ Two experienced cane growers planted a new plant-cane crop on irrigated land using the *dongkel* system, planting cuttings in the furrows of the harvested ratoon cane crop. While tending the new plant-cane, they uprooted the old ratoon crop. Two other growers upgraded their ratoon cane on dry-land using the *wali*-

only interested in upgrading their sugarcane crop when they had secure tenure for several years. Together with poor smallholders, they produced the major share of TRB cane and still ratooned the cane crop planted by PG Kebon Agung in 1978.

A comparison of the average yields per hectare shows that the mill's Reynoso cane on *sawah* had double the yield of outgrowers ratoon cane on *tegal*. In 1991 the mill harvested about 120 tons per hectare and the outgrowers obtained yields of up to 100 tons per ha on irrigated land. For outgrowers cane in the dry-land area the yields varied between 40 and 70 tons per hectare.

In summary, the mill used the capital intensive Reynoso production techniques for the *sawah*, because in this linkage type the mill placed a high priority on sugar productivity. The outgrowers practised the ratoon production techniques on both land use-categories, although on *sawah* they tended the crop more intensively. The TRB cane producers used the most extensive ratoon production techniques: the poor smallholders lacked cash and the patron-lessees lacked land-tenure security. The change from food crops to ratoon sugarcane production contributed to a commercialization and extensification of agriculture in Dadapan.

5.4.1 Non-resident dominated sugarcane production

In this section farm-size distribution and land tenure relations are discussed. Attention is also paid to the strategies used by smallholders and patrons to lease land and the impact which this has had on the land rents.

The cane producers in Dadapan controlled larger holdings than the food crop producers did, and the formers' farm-size distribution in 1991 was skewed. Only 14% of the farming households in Dadapan planted cane in 1991, their average farm-size was 1.35 ha, which is large compared to that of food crop producers, who on the average owned only 0.26 ha. 44% of the cane producers controlled farms smaller than one hectare and cultivated only 13% of the cane in the village. 14% of the cane producers managed farm enterprises larger than four hectare and cultivated 55% of the cane in Dadapan.

A large proportion (66%) of the cane holdings in Dadapan were rented from local landowners. In 1991 Kebon Agung planted 180 ha cane, for which it rented 13 ha *sawah* in the village. In theory this was for the production of planting materials, because national government regulations only allowed the mills to lease land for cuttings.²¹ Non-resident entrepreneurs rented 51 ha mainly *tegal* land in Baban. The local patrons and a few smallholders rented 36 ha, again mainly *tegal*. Cane producers in all farm-size categories leased cane land in proportion to the size of their farm; the smallholders rented little, local patrons more, and the non-resident patrons rented practically all their holdings.

Rents for *sawah* and *tegal* varied widely in Dadapan. In 1990 and 1991 PG Kebon Agung respectively rented 13 and 21 hectare *sawah* there. The mill used the value of 2000 kilogram sugar as the standard rent for one hectare *sawah* and paid the landowners Rp. 1,020,000 per hectare for an eleven month period. For additional months they added Rp. 31,000 per hectare

lobang system, digging new furrows between the ratoon cane rows and transplanting the newly formed suckers of the old ratoon crop into them after having removed the old rootstocks.

²¹ The central regulation specified that mills could lease irrigated land only for one season to produce cuttings (*bibit*). As part of the cane expansion policy, the local governments allowed the mills to lease dry-land holdings for two seasons to recover their investments.

per month. The landowners received only Rp. 900,000 of this, because the village government deducted Rp. 50,000 for the village development fund, for the construction of a bridge, and Rp. 70,000 for commissions and administrative expenses.²² The rents paid for *tegal* varied between Rp. 150,000 and Rp. 500,000 per ha per year. The exact rent depended on various factors, such as soil texture and fertility, the presence and quality of the root cane and other perennial crops, accessibility, the length of the tenure contract, the period between instalment payments, and the season that the plots could be cultivated.

Table 5.2 Farm-size distribution of Dadapan's cane producers in 1991

Farm-size categories	Cane farms		Sugarcane	
	(n)	(%)	(ha)	(%)
0 - 0.50	19	18	4.3	3
0.51 - 1	28	27	15.2	10
1.01 - 2	28	27	24.4	16
2.01 - 4	13	13	24.7	16
4.01 - 8	5	5	19.5	13
8.01 - 16	4	4	24.6	16
16.1 - 50	3	3	20.1	13
> 50	2	2	20.4	13
Total	103		153.2	

Source: Author's census of the cane producers

Entrepreneurs from Pakisaji, who have rented land in Baban since 1979, are slowly withdrawing from cane production in Dadapan. Until recently they paid higher rents for the accessible, larger and more fertile plots, but these have since increased. For this reason they are moving to the South Malang and Blitar *tegal* regions, where PG Kebon Agung recently introduced cane production and rents are lower. Local patrons and smallholders compete with the regional patrons on the local land tenure market. Initially they cheaply rented less accessible and infertile holdings, and then tried to take over holdings leased by regional patrons by making advance payments for future lease arrangements. Some smallholders invested the cash surplus they obtained from TRI credit or from cane sales in future land lease contracts.²³ With the exception of a few share cropping arrangements between family members, the terms for all tenure contracts were fixed cash rents to be paid in advance.

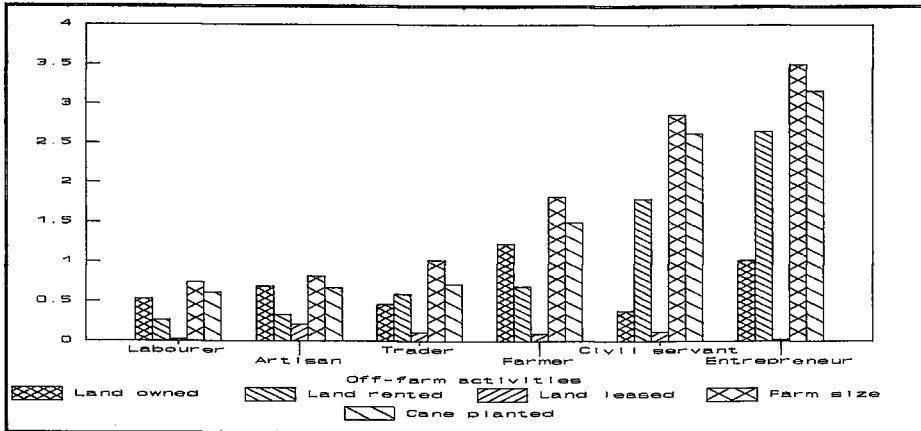
Although rents have increased, non-resident patrons continue to rent land in Baban because it provides them with contacts to reliable and relatively cheap cane workers. They engage their lessors in Baban as cane workers in and outside Dadapan because they increasingly have

²² The newly elected village head, Mrs. Hesti, acted as an intermediary for the lease arrangement with PG Kebon Agung. She linked the tenure contracts to the construction of bridges across the Metro river. In 1991 the villagers, with assistance of the military, constructed a temporary bridge for bicycles and motors, which shortened the distance to Pakisaji and Malang by several kilometers.

²³ Some smallholders used land tenure contracts as an accumulation strategy. They invested their cash surpluses in future lease contracts, for which the rents were low. In case they needed cash to buy a holding, they sold the lease contracts to a patron. The value of a lease contract increases, the quicker the usufruct rights to the holding are obtained.

problems in recruiting experienced cane workers in villages around the city of Malang where they cultivate sugar cane. The entrepreneurs used to extend the lease contracts when their lessors asked for new loans (*angsuran* system).²⁴ It are especially smallholders making investments in houses, education, or land, and village officials, elder households, and households with off-farm employment, who lease their holdings to the mill and the patrons.

Figure 5.2 Average land owned, rented and leased (ha) by cane producers per off-farm activities in 1991



Source: Author's census of the cane producers

The local patrons dominate the local land market. Land sales are commonly tied to credit relations. Land owners with an urgent need for cash tend to lease their holdings to local patrons. In case their land has been leased for many seasons in advance, new cash can be raised only by selling. Thus in some cases these lease loans ended in a transfer of ownership to local entrepreneurs, who could raise the cash needed for the transaction. In a few cases, a non-resident patron has become the owner of land leased from a poor smallholder.

In summary, it can be argued that land tenure relations have resulted in a skewed farm size distribution, especially in the *tegal* zone. Through land tenure relations a limited number of mainly non-resident patrons, including the mill, gained control over 66% of the cane land. The externally directed production units engage local agents to mediate the lease arrangements. Local cane producers, some of whom control small holdings, increasingly compete with the non-resident patrons on the land tenure market, and as a consequence rents have slowly risen. The latter expand their enterprises into dry-land areas where rents are still low, but lease the better cane land in Dadapan because it gives them connections to reliable and relatively cheap cane workers. The domination of the land lease markets by non-resident patrons and the land market by local ones, contributed to a skewed farm size and landownership distribution.

²⁴ Under the *angsuran* system, the usufruct of a holding is leased several years in advance. The rents decline according to the length of the time a lessee has to wait before he can cultivate the holding.

5.4.2 Family and wage labour in cane production

In this section labour relations in the different operational units of cane production are discussed, with attention being paid to the labour process, the organization and recruitment of labour, and its remuneration.

The different technologies used by the externally and internally directed production units were imposed on the labour process by different mechanisms. In section 5.4 it was explained how the mill dictates its technology to employee-overseers. The outgrowers relied on individual knowledge and connections with other knowledgeable actors. Knowledgeable actors in Dadapan were retired and current overseers of PG Kebon Agung, together with the extension staff of the mill and the Ministry of Agriculture. At the beginning of the new growing season the mill's extension staff organized a meeting for each TRI group, in which technical and organizational matters were discussed. Every month the field supervisor (*sinder*) or his staff met the TRI group chairmen for administrative or coordination purposes. It is therefore not surprising that the mill's former overseers and the leaders of the TRI groups in Dadapan came to experiment with more labour-intensive techniques. They acquired the technical knowledge through contacts with the mill officials and the exchange of experiences with other outgrowers. They themselves apply or supervise these techniques, and register their impact on yields. However, the majority of the smallholders and the regional patrons apply labour-extensive production techniques in which the latter rely on local caretakers for the organization and supervision of the labour process.

The different production techniques have distinct labour needs. For Reynoso production on *sawah*, the mill needs about 800 labour days per hectare. For their ratoon production the outgrowers need respectively about 400 and 250 labour days for one hectare cane on *sawah* and *tegal*.²⁵

In 1991 PG Kebon Agung assigned the organization of cane production on 13 ha in Dadapan and seven ha in a neighbouring village to three overseers. One overseer lived in Dadapan and the other two lived in neighbouring villages. These overseers each had their team of cane workers, composed of some client workers (*kuli langganan*) from their own village and casual labourers from Dadapan and its neighbouring villages.

The mill's overseers contracted male workers for heavy tillage activities and female workers for the lighter tending activities. Digging the drainage canals and ridging the cane rows was done by male workers on a piece rate; for instance, they paid Rp. 45 per *leng* for digging a drainage canal.²⁶ For the lighter field activities, such as planting and weeding, the overseers recruited female workers on a daily wage basis. In 1991 these women received Rp. 750 for working from 7.00 until 11.00 A.M. The specific tariffs for the piece rate labour contracts and the daily wage are fixed through negotiations, which intensify whenever the national sugar prices increase. The mill's overseers preferred to work with women because they work more accurately at a lower cost.

PG Kebon Agung's plant and harvest overseers (*mandor tanam* and *mandor tebang*) both

²⁵ These figures cover cane cultivation as well as the harvest. When daily wage rates are used, cane workers work from seven until half past eleven, or 4 1/2 hours. When piece rate and lump sum labour contracts are used, the length of the working day tends to be twice as long.

²⁶ The mills introduced *leng* as a measurement unit for reynoso cane. It is a ridge planted with cane, 9.5-10 meters long and 1.10 meters wide. Both the rents and some of the piece rate labour contracts are calculated on the basis of *leng*.

lock in their male labourers through advance payments. For piece rate or lump sum contracts they make advance payments that give both parties the security that the work will or can be done. The mill gives their harvest overseers contract money (*uang kontrak*), to bind cane cutters to them through advance payments. Two overseers, Darwis and his brother, live in Dadapan and recruited about half of their cane cutters there. The other half came from villages in the Pakisaji and Ngajum sub-districts. These advance payments are not without risk as they had to be deducted gradually from the wages. Darwis complained that he lost contract money, because cane cutters, who had not yet repaid their advances, moved on to other patrons. Recently the competition intensified between patrons and the mill's harvest overseers for experienced cane cutters.

The cane cutters work on piece rate tariffs in addition to which they demand hardship bonuses. These tariffs are negotiated yearly by PG Kebon Agung and the cooperatives in its procurement area. For 1991, the basis tariff paid by the cane owners for cutting and loading cane was fixed at Rp. 195 per 100 kg cane. Transporting the cane to the mill and reloading it on lorries cost respectively Rp. 250 and Rp. 16 per 100 kg cane. Of this, the harvest overseers paid the cane cutters Rp. 160 per 100 kg cane loaded on trucks that entered the plot. The cane workers charged additional hardship bonuses when the dry-leaves had not been removed or the trucks could not enter the plots. The overseers and TRI group leaders acted as intermediaries between the cane owners and the cutters in negotiating these bonuses. The cutters demanded that the bonuses be paid in advance and thus the cane owners had to borrow money from the intermediaries. Through these bonuses and loans, the costs of cane cutting increased sharply; in practice the owners paid between Rp. 213 and Rp. 235 per 100 kg sugarcane.

Having considered labour relations in mill managed cane production, let us now move on to those in the four types of outgrowers production units mentioned earlier.

One third of the smallholders' farms relied only on family labour and the other two thirds involved casual labourers as well. Cane producing families who work small holdings and are not engaged in other major income generating activities, relied solely on family labour; the partners and their children providing sufficient labour to carry out the field operations. Some of these households were involved in off-farm activities in the morning and worked in their cane fields in the afternoon.

The category of smallholders combining family with wage labour was quite heterogeneous. One sub-category were smallholders with holdings too big to cultivate with only family labour. These needed assistance during the peak labour periods of ridging and the harvest.

Riono controls 0.85 ha sugarcane and 0.30 ha paddy in Dadapan. His three children attend school and only he and his wife can work in the cane field. Riono cooperates with two neighbours during the peak labour period, using a type of commoditized labour exchange. He invites his neighbours for transplanting and ridging on daily wage arrangements (*harian*). Since the cane holdings of these three farmers are harvested in different months, they also have different peak labour periods. In 1991 Riono paid them a daily wage of Rp. 800 and Riono's wife prepared them a meal. Riono works on similar conditions for his two neighbours when they need wage labour.

Another sub-category were the smallholders whose cane area was too big for the available family labour, because the family was aged or involved in off-farm activities. These smallholders engaged one or more labourers on both *borongan* and *harian* arrangements. Social control of the cane workers was less important, because the labourers were recruited

from the neighbourhood or through kinship networks.

In 1991 H. Anwar managed 1.40 ha sugarcane. He and his wife were both 70 years old and only had their youngest daughter and her baby temporary living at their home. Because of his age, H. Anwar hires wage labourers for all the heavy field operations. Two neighbours, who are his regular cane workers, worked both on piece rates and daily wage contracts (*borongan* and *harian*). In 1991 H. Anwar paid Rp. 1000 per five hour working day and supervised the field operations himself. Some lighter field operations he still did himself as well.

The patrons have teams of permanent cane workers. Some patrons work with household members and their teams, others only supervise their teams, still others appoint foremen. The three cases below show these differences in the internal organization of the labour process.

H. Rochmat is the chairman of the TRI group in Baban and also acts as an agent for H. Sukri of Pakisaji. In 1991 he cultivated 12 ha cane on dry-land in Dadapan and the neighbouring village. He tends this cane together with his wife, cousin, eldest son, and 20 cane workers, 12 men and eight women. Eight of the men work for him on a regular basis (*kuli langganan*) and all live in the neighbouring village.²⁷ They carry out the heavy field operations of weeding and ridging together with H. Rochmat's household members, and as team they harvest the cane which H. Rochmat grows and buys for H. Sukri. The eight women only apply fertilizer and later strip the dried leaves from cane stalks (*roges*). H. Rochmat contracts four neighbours for ratooning (*kepras*) when his permanent cane workers are still busy with the cane harvest. He uses a piece rate (*borongan*) arrangement for harvesting and ratooning and a daily wage (*harian*) arrangement for the other field operations. In 1991 he paid an average of Rp. 225 per 100 kg for cane cutting and Rp. 30 per *leng* for ratooning. For a five-hour working day (7 AM until noon) he paid the male workers Rp. 1000 and the female ones Rp. 600. Since H. Rochmat daily joins his labourers in the field, he can keep an eye on the technical and social standards of the work.

Eleven cane patrons work with permanent teams of cane workers and because they themselves are engaged in non-farm activities, they appointed one of their labourers as foreman (*kuli percaya*). They negotiate the labour contracts with the foremen and expect them to organize and supervise the labourers. Local patrons can inspect their labourers more intensively and thus use daily wage arrangements more frequently. Non-resident patrons prefer piece rate contracts, which need only extensive supervision.

Sucipto has worked as a civil servant for twenty years, the last 16 as the secretary of the *camat* in Pakisaji. In 1978 he started to rent cane land in Baban and in 1991 he grew 50 ha cane, of which 3.5 ha were in Baban. Some of his lessors requested that they be given exclusive labour rights. One lessor cultivates cane for Sucipto on his holding. Three other lessors, together with their sons, formed a team that works exclusively for Sucipto. Sucipto appointed the eldest lessor as foreman to coordinate and administer the

²⁷ The cane growers know each others' *kuli langganan* and only offer them labour contracts when they know that their patrons' field operations have been completed.

field activities. Sucipto or his son supervise the cane workers in applying fertilizer. He prefers to use piece rate contracts with his cane workers, and in 1991 paid Rp. 40 per *leng* for both ratooning and ridging, and between Rp. 175 and Rp. 250 per quintal for cane cutting. For transplanting (*sulam*) and fertilizer application, he paid daily wages of Rp. 800 to women and Rp. 1250 to men.

Thus, it is quite common for indebted smallholders to become lessors and permanent cane workers for the Pakisaji entrepreneurs, even working in their patron's cane fields outside Dadapan. In 1991 two non-resident patrons followed the mill's strategy and appointed a local overseer for the organization and supervision of the field operations. However, it was not easy to find capable and reliable overseers in Dadapan.

In 1991 hajji Sukri from Pakisaji cultivated about 150 ha cane, of which only 6 ha were located in Dadapan. His brother was in charge of cane production, while H. Sukri concentrated on trade, money lending and the financial administration. H. Sukri employed two overseers who supervised the 100 ha cane he grew in North Malang. His brother supervised his cane holdings in the Pakisaji, Ngajum, and Sumberpuncung sub-districts and in the Blitar district. Before 1991, H. Sukri cultivated a larger cane area in Baban, for which he employed a local overseer. He sacked two overseers because they cheated him.²⁸ In 1991, H. Sukri's brother was responsible for 3.5 ha cane and a former overseer was now foreman of the team of permanent cane workers. The foreman and his team of 12 cane workers also worked in their patron's cane holdings in North and South Malang. He engaged them for weeding and ridging and for cutting cane. One smallholder in Baban in 1991 bought one hectare land and leased his 2.5 ha cane land to H. Sukri, for two seasons to obtain cash. The farmer continued to manage his farm, but as a waged overseer and labourer. For both ratooning and ridging H. Sukri paid Rp. 35 per *leng*, and for cane cutting Rp. 200 per quintal.

The non-resident entrepreneurs and overseers prefer to use piece rate labour contracts (*borongan*), when extensive field supervision enables them to maintain technical standards. First, this system, in combination with advance payments, allows them to use their permanent and experienced cane workers in their operation, which reduces risks. Second, the labourers work faster, longer, and were mostly cheaper than labourers working for daily wages. In the employers' opinion, the latter arrangements allow more opportunities for foot dragging. Related to this, the cost of supervision is lower for piece rate than it is for waged labour. The latter needs intensive supervision to maintain the quality of the work and to prevent dawdling.

The local patrons and smallholders, who work in the field together with their cane workers, prefer wage labour arrangements. In their opinion, the quality and productivity of labour are better because they are present. They use the daily wage contracts for activities that required accuracy and the piece rate contracts for the heavy field operations like ratooning (*mengepras*) and ridging (*menutup*), which can easily be supervised.

²⁸ One overseer reported that H. Sukri's cane had been harvested and then tried to sell a remaining 35 tons as cane he had bought from a local cane grower. The other overseer cheated with his labour administration. In both cases H. Rochmat, H. Sukri's trade agent, and the chairman of the TRI group in Baban, informed him about his overseers' machinations.

The patrons and brokers organized their teams of cane cutters from their client-cane workers (*kuli langganan*). The entrepreneurs either paid them a higher tariff (Rp. 200 per 100 kg) for all cane, or they negotiated specific tariffs per holding, in which the condition of the cane and its accessibility by truck were taken into consideration. Labour recruitment problems occurred during the second half of the milling season, when the sugarcane traders and the mill's overseers competed for experienced cane cutters.

Some patrons and all the brokers own private trucks to transport their harvested cane to the mill. During the first two months of the crushing season they rent them to the mill on a piece rate basis for transporting the cane harvested by the mill's overseers. The entrepreneur's truck drivers work on a share arrangement, receiving 10% of the transport revenues and an additional Rp. 2000 per truck for the expenses at the mill. From this Rp. 2000, the drivers had to pay Rp. 500 to the labourers who unloaded their truck at the mill, and Rp. 500 to Rp. 750 to their co-driver (*kornet*).

Summarizing, the externally directed production units and the local patrons relied on wage labour, while the majority of local cane producers used various combinations of family and wage labour. The smallholders organized the work themselves, and relied largely on family labour. However, the need for wage labour increased with the size of the cane holding, and the cane growers' involvement in non-farm activities. Smallholders cooperated in their field activities, for which they used a commoditized form of exchange labour. Local patrons and smallholders, relying on wage labour, paid daily wages for the activities which they supervised themselves. For the heavy field operations that did not require intensive labour control, they paid piece-rates. The local and non-resident patrons organized permanent teams of cane workers; the former through neighbourhood and loan arrangements, and the latter through linking land tenure with labour arrangements. The non-resident patrons worked with their lessors and engaged one of them as foreman, with whom they coordinated the activities and paid advances on the piece-rate contracts. The mill's overseers used piece rate contracts with advance payments for heavy work by male workers, and preferred paying daily wages for lighter work done by female labourers.

5.4.3 Credit relations in sugarcane production

For the smallholders, credit is important in financing sugarcane production. The investment in resources such as fertilizer and labour, and the lack of a regular income from sugarcane, make credit essential for overcoming cash shortages. Patrons can more easily do without credit, but the relatively low interest rates make borrowing attractive for them as well. However, in 1991 the cooperative only provided credit for a smaller dry-land cane area than was actually planted.

The KUD Pakisaji supplied TRI credit for 622 ha outgrowers cane of which the money for 78 ha was channelled through the two TRI groups in Dadapan. Members of the TRI group in Tambaksari received TRI credit for 11.4 ha ratoon cane on *sawah* (TRIS-II), and 39.5 ha old ratoon cane on *tegal* (TRIT-IV), the TRI group in Baban obtained only the latter TRI credit for 27 ha. The entrepreneurs from Pakisaji obtained TRI credit funds for 15 ha through the TRI groups in Dadapan and for an additional 25 ha through TRI groups in other villages in the sub-district. The cane producers themselves financed the cultivation of the other 37 ha sugarcane, for which they also obtained credit from cane brokers in Pakisaji and the city of Malang. PG Kebon Agung financed the 13 ha Reynoso cane in Dadapan. Thus, for the 140 ha outgrowers cane in Dadapan, the Pakisaji cooperative provided TRI credit funds for 103

ha and the other 37 ha had to be financed through other resources.

A shortage of TRI credit funds led to patronage in the division of the funds. The registration and distribution of the TRI credit took place in an environment in which various actors tried to influence the decisions. The cooperative and the mill provided sufficient TRI funds for cane on the *sawah* area, but created a shortage for the *tegal* area. They considered the risks of the *tegal* area to high, because erratic rainfall causes fluctuations in the yield. The village head and the *camat* wanted the entrepreneurs to obtain the funds and sell their cane through TRI groups in Dadapan. PG Kebon Agung paid the local officials incentives for cane supplied through the local TRI groups in their village or sub-district. The patrons wanted to obtain the subsidized TRI credit, but disliked restrictions on their freedom to trade in their cane. Sahir, the TRI group chairmen in Tambaksari, tried to defend the interest of his and Ismail's kin group. Sahir's relatives received TRI credit for a larger proportion of their cane than ordinary members did. H. Rochmat's TRI group was formed by a coalition of local patrons, some of their client-smallholders, and the kin group of the hamlet leader.²⁹ The leaders of the TRI group did not encourage the local smallholders to cultivate their cane themselves, using TRI credit funds. They gave credit funds for 15 ha to the non-resident patrons. These patrons controlled three other TRI groups in the Pakisaji sub-district, through which they obtained TRI credit funds for another 25 ha cane in Dadapan.³⁰

The Pakisaji cooperative did not pay out all the credit funds to the outgrowers. For ratoon cane on *sawah* (TRIS II), the cooperative received a credit package from the BRI bank with a value of Rp. 703,000 per hectare, and for old ratoon cane on *tegal* (TRIT IV), Rp. 572,000 per hectare. For ratoon cane on *sawah* and *tegal* the cane producers received respectively credit packages with values of Rp. 409,500 and Rp. 377,000 per hectare.³¹ The cooperative's officials justified this by claiming that the smallholders wanted a flexible credit package. Therefore, the cooperative paid a basic amount to all TRI farmers as a living allowance and those who needed extra funds could apply for a separate loan. Only 11 members of the TRI groups in Dadapan made use of this option.³² However, in its 1991 annual report the cooperative reported that the TRIS and TRIT cane producers respectively received Rp. 581,842 and Rp. 502,000 credit per hectare sugarcane (KUD Beringin 1991).

The cooperative was much too late in distributing the fertilizers for the TRI credit programme. Sahir and his secretary failed to repay their TRI debts for the 1989/1990 season.

²⁹ The hamlet head was Ismail's foster child. His youngest brother-in-law was secretary of hajji Rochmat's TRI group. Another brother-in-law was a brother of Sucipto and three other patrons in Pakisaji, and still another was brother and overseer of a regional patron, one of Samsul's agents.

³⁰ For the 1990/1991 season the TRI group in the village Pakisaji administered TRI credit funds for 46 ha, of which only 4 ha was actually planted in Pakisaji.

³¹ The cane growers replaced the phosphate and potassium fertilizer with cheaper nitrogen fertilizers, which made a difference of Rp. 20,000 per hectare. The cooperative paid only Rp. 150,000 per ha for living costs and cultivation expenses, instead of the official amount of Rp. 250,000.

³² The cooperative obtained about Rp. 10,277,000 in cheap credit funds through their administration of the TRI credit for the two TRI groups in Dadapan, which they could use for lucrative short-term credit. Sugarcane traders in Pakisaji frequently borrowed trading capital from the cooperative.

A settlement had to be reached with the bank and the cooperatives.³³ As a consequence, it was December before the cane producers received the fertilizer they had needed between July and August. They either had to buy fertilizer themselves or had to take a loan from third parties. Four producers, with in total 2.0 ha sugarcane, had already sold their cane to a broker when the TRI group finally distributed the fertilizer and as a result, the TRI group chairman could use the TRI credit funds for his own projects.

Local patrons and some smallholders obtained fertilizer from H. Sukri in Pakisaji. H. Rochmat and Mariono both had holdings for which they did not obtain TRI credit funds and both contracted to borrow fertilizer from H. Sukri.³⁴ He in turn obtained his trading capital through loans from the Chinese broker Samsul, and through loans from commercial banks.

Summarizing, shortages of TRI credit funds for ratoon cane on *tegal* caused tensions in the TRI groups. The division of funds in the local TRI groups was influenced by the coalition of cane producers backing the leaders. In Tambaksari, an alliance of the kin group of the former village head (all smallholders) and non-resident patrons influenced the distribution, and in Baban a coalition of local patrons, some client smallholders, and the kin group of the hamlet leader did so. Similar coalitions seemed to operate in the cooperative, because the outgrowers did not receive all the credit funds they were entitled to. Smallholders, local patrons and regional patrons had to find alternative sources of credit. Regional patrons and brokers could most easily obtain working capital from commercial banks. They used various credit and marketing arrangements to obtain control over the cane of local growers through their partners and agents. How they tied credit arrangements to marketing contracts will be examined in the next sub-section.

5.4.4 Mill and broker dominated cane trade

In the previous section it was shown that 9% of the cane in Dadapan was financed by the mill and 51% and 16% by TRI credit through respectively TRI groups in and outside Dadapan. The remaining 24% was free cane, mainly financed by brokers. In this sub-section, different types of agro-industrial linkages will be analyzed, describing the organizational structure and arrangements between and strategies of actors at village level.

The KUD Pakisaji supplied 296,732 quintal TRIK and 278,252 quintal TRIN cane to PG Kebon Agung. The Tambaksari TRI group supplied 19,358 quintal TRIK and 2,350 quintal TRIN cane, and the Baban TRI group supplied 8,430 quintal TRIK and 4,143 quintal TRIN (KUD Beringin 1992). During the 1990/1991 season, the mill took cane cuttings (*bibit*) from a limited area. It harvested about 1,200 quintal cane per hectare, or a total of 15,600 quintal.

Of the estimated production from all cane cultivated in Dadapan, about 18% was supplied as TS (*Tebu Sendiri*) cane, 34% as TRIK (*Tebu Rakyat Intensifikasi Kredit*), 25% as TRIN (*Tebu Rakyat Intensifikasi Non-kredit*), and the remaining 23% as TRB (*Tebu Rakyat Bebas*) cane. A review by TRI group shows that on the irrigated area, the major share of the cane

³³ Funds raised for the village electricity project were used to repay the debt to the BRI bank and the debtors agreed that the KUD Pakisaji could transfer their living allowances to the village electricity project. Only after this settlement had been reached did the BRI Bank in Malang transfer funds to the KUD Pakisaji through the cooperative of the Pakis sub-district.

³⁴ H. Sukri gave fertilizer on a contract basis to cane growers in Dadapan. He exchanged 100 kg of fertilizer for one ton of sugarcane loaded on his truck.

was supplied as TS and TRIK cane, while in the dry-land area in Baban, about 22% was TRIK cane, 11% TRIN cane, and the remaining 67% TRB cane. This indicates that there are remarkable differences in the agro-industrial linkages for the *sawah* and the *tegal* area.

Table 5.3 Estimated turnover in quintals per marketing channel during the 1991 campaign

	TS	TRIK	TRIN	TRB	Total	%
TRI groups Dadapan		27,788	6,493		34,281	39
TRI groups Pakisaji		2,184	15,375		17,559	20
Agents TRB cane brokers				20,417	20,417	23
Mill managed cane	15,600				15,600	18
TOTAL	15,600 (18%)	29,972 (34%)	21,868 (25%)	20,417 (23%)	87,857	100

Sources: KUD Beringin 1992 and author's inventory

PG Kebon Agung needed only a small proportion of its own cane for planting material, and therefore crushed almost all of it. The mill carefully observed the sugar content of the cane to guarantee that it had ripened well. In 1991, PG Kebon Agung had a time-schedule in which it first harvested outgrowers cane on irrigated land and then moved on to the mill's cane. It harvested all outgrowers cane in early June and moved to its own cane when it matured. For the TS cane no transaction took place, since the mill already owned it.

This contrasted with outgrowers TRIK cane on *sawah*, in which the mill paid little attention to the sugar content. During the first two weeks of the crushing season, in June 1991, the mill gave a fixed sugar content of 7% for all outgrowers cane. The mill represented the sugar content as being subsidized, because the mill wanted to guarantee a smooth start for the cane supply during the initial weeks of the new crushing season. The mill experienced little opposition from the cane growers in Tambaksari, and within two weeks all cane on *sawah* was harvested, including that which had not yet matured. This also explains the large share of TS and TRIK cane on the irrigated area; the parties knew that all outgrowers cane on *sawah* was grown with TRI credit funds, and therefore the mill could easily control the harvest of TRIK cane.

The classification of TRIK and TRIN cane for the *tegal* area gave much room for manipulation. The local TRI groups channelled TRI credit for only 66.5 of the 129 ha cane cultivated on dry-land (52%). Everyone involved in the cane harvest was aware of the trade restriction imposed on TRIK cane. Only the leaders of the TRI groups knew the cane area on which claims for TRIK cane rested, enabling them to manipulate it, classifying TRIK cane as TRIN cane, because that cane category was financially more attractive.

Earlier it was explained that local and regional patrons organized the harvest of their own cane. For the dry-land area they coordinated this with the cooperative, in August and September, when the sugar content increased. Late September the mill's harvest overseers harvested the remaining smallholders' TRIK cane in the *tegal* area.

The mill's cane harvest schedule worked to the advantage of the entrepreneurs. The mill used a guaranteed sugar content (4.2% for outgrowers) for the first 15 days period of the crushing period, after which a sugar content for TRIK and TRIN cane from the *sawah* and the *tegal* area was fixed every 15 days. The sugar contents of TRIK and TRIN cane differed slightly (0.01 to 0.05%), and both increased gradually during the crushing season, reaching

their peak during August and September. In June 1991 outgrowers with cane on *sawah* only received a sugar content of 4.2% and thus a sugarcane price of Rp. 2,973 per quintal. Outgrowers cane from the *tegal* area got a sugar content of 6.7% or Rp. 4763 per quintal in September 1991. The cane producers on *sawah* were mainly smallholders and a large proportion of the cane on *tegal* was controlled by the entrepreneurs. Currently the former have become increasingly aware of these prices differences and look for strategies to get around the mill's harvest schedule.

The cane entrepreneurs had several reasons for ignoring TRI credit and for trying to evade the marketing regulations. First, they complained about the high deductions on TRIK cane made by the TRI institutions. Second, there was the question of large differences in the mill's sugar content and prices for TRIK cane and non-Malang mills' for TRB cane. To overcome these problems, PG Kebon Agung introduced TRIN cane. Traders and cane producers could supply their cane as TRIN cane when they had not received TRI credit funds for it. The mill allowed this a slightly higher sugar content, and was willing to make direct advance payments to traders for TRIN cane supply contracts. In these the entrepreneurs, for example, had to supply 1000 quintal TRIN cane in a five-day period. Through such a TRIN cane bulk supply contract, the mill hoped to bind the TRB cane producers and brokers to itself.

The regional and local sugarcane entrepreneurs had increased their influence over the KUD Pakisaji and demanded lower levies and deductions for both TRIK and TRIN cane. H. Sukri and Sucipto, and in the background Samsul, warned the leaders of the KUD Pakisaji that they would sell their cane through a cane brokers' cooperative, the KUD Lawang, of which they were members as well.³⁵ This cooperative deducted only Rp. 15 as commission for TRIK cane and none for TRIN cane. In 1991, the KUD Pakisaji adjusted its policies to the entrepreneurs' interest. It reduced the commission for TRIK cane to Rp. 34 per quintal and supplied TRIN cane to PG Kebon Agung without deducting a commission.

The cane brokers always had the option of selling their cane to mills other than PG Kebon Agung. When PG Kebon Agung's refinery was being repaired or when the contractors of other mills offered a higher sugar content, the entrepreneurs sold their cane as TRB cane through these contractors.

I distinguished three type linkages of outgrowers cane with the mill: the credit-marketing contract for TRIK cane, the bulk cane supply contract for TRIN cane, and the traders' networks for TRB cane. In the following paragraphs I will discuss the arrangements between the actors in the three types of linkages.

The TRI institutions at the sub-district level (Satpelbimas, FMPW and cooperatives) coordinated the credit and marketing arrangements for both TRIK and TRIN cane. The mill's field supervisor and the *camat* could instruct the TRI group chairman to attend meetings, to register outgrowers requesting TRI credit, to organize field checks, to distribute and administer the fertilizer and the money, to coordinate the cane harvest, and to settle any conflicts between the outgrowers and the TRI institutions.

The mill invited the local government and the TRI group leaders for the opening ceremony of the crushing season (*pesta giling*). During this ceremony, the *bupati* announced his official marketing policies for TRIK, TRIN and TRB cane grown in the mills hinterland. In 1991,

³⁵ In 1991 Samsul controlled about 81.4% of the 278.252 quintal TRIN cane which KUD Pakisaji supplied to PG Kebon Agung. From the sugar produced from this TRIN cane, the cooperative received a fee of Rp. 5 per kg sugar from BULOG, which it would not receive if the entrepreneurs channeled their cane through another cooperative or to another mill.

the district head announced that all cane that had been registered as TRIK or TRIN cane in the milling contracts with the cooperatives, had to be supplied to PG Kebon Agung through TRI groups and cooperatives. Only TRB cane could be traded freely, if the owner obtained the required documents from his office. He also ordered all local government and TRI institution officials to cooperate with the mill so that the mill's targets would be reached.³⁶ Thus, the ceremony was an important event at which the cane marketing policies were presented. It was aimed especially at the smallholders, because the entrepreneurs had many strategies with which to evade the marketing restrictions.

The TRI institutions deducted commission from the cane growers, which they distributed among the persons supervising the credit and trade relations at the village and sub-district levels. The KUD Pakisaji deducted a commission of Rp. 34 per quintal from the TRIK cane owners, through the administration of the cane sales and TRI credit, and a coordination fee of Rp. 13.5 through the cane transport contracts. The commission was divided between the TRI group (Rp. 10), the cooperative (Rp. 10), the village development fund (Rp. 10), and the sub-district leaders (Rp. 4). The Bimas Executive Board divided the coordination fees at the district level. The leaders of the cooperative said that the district government received a road tax of Rp. 2, and the cooperative centre (KP KUD) a commission of Rp. 6, from which it also financed the working group (KKPPG) that checked the sugar content and the weight of the cane at PG Kebon Agung for the outgrowers. Additionally the cooperative paid the TRI groups 50% of the sugar fees and fertilizer fees it received for TRIK cane from BULOG. These commissions and fees were a financial incentive for the coordination, administration and field activities carried out by the local government and TRI group leaders. For TRIN cane, the KUD Pakisaji only received a sugar fee of Rp. 5 per kilo sugar from BULOG, of which it gave 10% or about Rp. 2.5 per quintal TRIN cane to the TRI groups.

The mill also paid incentives to third parties to support their activities and policies. The village head, the village development fund, and the village civil guard (*hansip*) received respectively Rp. 0.60, Rp. 0.45 and Rp. 0.95 per quintal sugarcane produced in the village and sold through the official marketing channels. At the sub-district level, PG Kebon Agung paid Rp. 0.50 per quintal sugarcane to the *camat*, and Rp. 0.30 to both the heads of both the police and the military.

Moving from the formal to the informal linkages, I found that some regional patrons had a trading network parallel to that of the TRI institutions. They offered loans to cane growers and bought cane all along, from several months before the crushing season started until it ended. Local patrons came to their offices in Pakisaji to negotiate transactions, but for their transactions with smallholders they relied on their local agents, either *pengantar* or *bakul*. The former were only mediators who lacked capital but engineered purchase contracts and the latter were local cane traders who bought cane on their own account and risk. They also borrowed capital from their broker (*cukong*), which they repaid with cane. In 1991, the Chinese broker Samsul had a major interest in cane production in Dadapan.

Samsul was the sole broker (*kontraktor tunggal*) of PG Kebon Agung. Colleague brokers estimated that Samsul financed the cultivation of about 200 ha cane and traded another 400 ha cane during the 1991 crushing season. Part of that cane came from Dadapan. He cooperated with three patrons from Pakisaji, who managed enterprises of differing scale

³⁶ For a more detailed description of PG Kebon Agung's opening ceremony of the 1991 crushing season, see Appendix 4.

and cultivated cane in Dadapan. Samsul and H. Sukri cooperated intensively in the financing and marketing of cane, but their specific financial arrangements remained a secret. For the cane trade in Dadapan, H. Sukri had a commission arrangement with H. Rochmat, chairman of the TRI group in Baban and cane trader (*bakul*). Samsul had a profit share arrangement with Karminto and H. Qomar, in which they received 20 to 25% of the net profit made on the cane they cultivated and traded using Samsul's capital. Karminto cultivated about 65 ha cane, of which 25 ha were financed by Samsul. He controlled 4 ha cane in Dadapan where his brother acted as his overseer and agent. H. Qomar cultivated about 12 ha cane, all financed by Samsul. He had an arrangement with a smallholder in Baban, who acted as foreman for his cane cultivation and harvest, and as mediator for cane purchase contracts in Dadapan and two neighbouring villages. Notwithstanding their intensive relations with the managers of PG Kebon Agung, Samsul and H. Sukri also supplied cane to PG Kreet Baru and to the contractors of non-Malang mills. Every Saturday all Samsul's agents came to his office to report on the progress in the field and the financial administration.

The broker stood in the centre of an action set, in which he coordinated his enterprise through regular contacts with his foremen, overseers, and agents at the village level, and with traders with larger enterprises at the sub-district level.

Summarizing these marketing relations, four types of linkages can be distinguished in Dadapan: the direct link in the estate type for TS cane, the credit-marketing contract for TRIK cane, the bulk cane supply contracts for TRIN cane, and the traders' networks for TRB cane. No trade occurred in mill-managed cane, because planter and processor were the same institution. The TRI groups and cooperative were the institutions in the formal linkage of the TRI programme. The mill organized a highly symbolic event, where the highest political authority represented the trade restrictions, particularly for smallholders. Financial considerations made it more attractive for the commercial patrons to supply TRB cane. A smaller proportion of the cane was traded as TRIK cane than that for which TRI credit funds had been supplied. The same persons led the TRI groups and had influence in the cooperative. Some of these operated as middlemen for the cane brokers as well. It was these TRI group leaders, patrons, and brokers who used their social networks at the supra-village level to get around the trade restrictions a TRIK cane. The mill and the cooperative adjusted their policies to the interests of these entrepreneurs, because of their dependency on the entrepreneurs' cane. They further needed the support of the TRI groups to control the smallholders' TRIK cane, thus giving in to their demands for more liberal marketing relations for TRIN cane, and for commissions on their TRI programme services.

5.5 Struggles in Cane Production

In this section I will deal with the conflicts of interests in the cane production and marketing relations. Not all these conflicts manifest themselves openly, therefore I will also analyze the strategies and mechanisms used by actors with conflicting interests in respectively the land, labour, credit and marketing relations of cane production in Dadapan.

In 1991, landowners in Ngatisari opposed the land lease arrangements with PG Kebon Agung for the 1991/1992 season. The village head pressured them to join the lease contract she mediated for the 20 ha irrigated land which the mill wanted for growing cane. She, the hamlet leader, and H. Anwar approached the landowners who refused to do so. The officials

labelled these farmers opponents of economic development, but the farmers argued that the lease contract and village development should be kept separate; they were willing to contribute Rp. 50,000 per ha of cane for the construction of the bridge, just like other lessors did.

During the cane harvest conflicts emerged in the labour arrangements between the mill's harvest overseers and the cane cutters, and between the cane owners and Sahir, the TRI group chairman. The cane cutters demanded bonuses for extra work from the cane owners and these negotiations were mediated by the overseers and the TRI group leaders. As part of their strategy during these negotiations, the cane cutters showed their discontent with the terms by cutting the cane poorly and through coordinated slow-down actions. When in the cane cutters' view the overseers failed to defend their interests, they stopped cutting or moved to another employer. Some owners criticized Darwis and Sahir for taking the side of the cane cutters and for benefitting from the harvest activities through their money lending. The cane cutters demanded that the bonuses be paid in advance and the cane owners had to borrow money to do this, as well as for the snacks and cigarettes they had to give the cutters. Additionally they had to pay between Rp. 2000 and Rp. 3000 per truck to drivers for food and reloading expenses at the mill.

The patrons and their permanent cane workers continuously bargained about the piece and daily wage rates and other labour conditions. This bargaining changed into negotiation when the national government increased the sugar prices, or when the regional patrons wanted their cane workers to work in another sub-district. In the latter case they requested higher piece rates, advance payments for the subsistence needs of their family, and a proper allowance for lodging. During the crushing season the regional patrons and the mill's overseers had to adjust their wages to the urban labour market.

At the end of the fasting-month (*Ramadan*) and the harvest season the permanent cane workers expected their patrons to give them presents. They also expected to borrow money or to receive help in case of need. This was different in the case of non-resident patrons and overseers, who recruited their labourers in Dadapan. These patrons gave presents to their cane cutters to assure themselves of their allegiance for the next season. Some patrons only gave presents to their valuable overseers and foremen, but tried to get around such claims from ordinary cane workers, which was more difficult to do for the local patrons.

Both the mill and non-resident cane producers had to make arrangements with caretakers in Dadapan to avoid being cheated by their lessors and employees, or to prevent their cane from being destroyed. PG Kebon Agung employed a separate fertilizer overseer (*mandor mes*), who was responsible for applying fertilizer to the mill's cane. When the mill's overseers moved to a new cane block in April or May, the mill made a former employee who lived in Dadapan responsible for guarding the cane until it was loaded on trucks. Theft of cane and fertilizer and destruction of cane had occurred in Dadapan and therefore the mill employed a local guard, while regional patrons paid the village leaders and their local foremen to keep an eye on their cane. They also engaged relatives to supervise their workers during the application of fertilizer.

In the farmers' group and the TRI group in Tambaksari, the distribution of TRI credit funds led to tensions between the faction of the former and new village leaders. Sahir and Mariono quarrelled about the failure of Ismail's kin group to repay their TRI loans during the 1990 season. Mariono then had to engineer a solution, before the cooperative agreed to distribute the funds. Mariono also criticized the patronage which Sahir used to distribute the

TRI credit funds.³⁷ Mariono, who was Mrs. Hesti's advisor for agricultural affairs, lobbied for Sahir's replacement by someone loyal to the new village head.

Mariono helped local cane growers to discuss mistakes made in the financial administration with KUD and mill officials. Sahir disliked this and criticized Mariono for accepting compensation from the smallholders. Mariono also preferred the local TRIK and TRIN cane to be harvested by the TRI groups themselves. This would bring more employment to the village, because the mill's overseers recruited the majority of the cane cutters outside Dadapan. The cane would no longer be harvested at the start and of the end of the crushing season, and thus the owners would receive a better prices for it.³⁸ Sahir and the other TRI group leaders preferred to continue with the old system because they did not own a truck. Mariono rented a truck in Pakisaji and organized the harvest of his cane using his own team of cane workers.

Tensions also emerged with the mill's field staff about classifying TRIK cane as TRIN cane. The TRI group leaders and the entrepreneurs reacted to the TRIN policy by trying to label most of their cane as TRIN cane. They called only a proportion of their cane TRIK cane, both to repay the TRI credit and to please the officials. The remaining cane they sold to PG Kebon Agung as TRIN cane, through the cooperative offering the highest sugar content and the lowest deductions³⁹, or as TRB cane to mills other than PG Kebon Agung.

Sahir, the chairman of the TRI group in Tambaksari, allowed his relatives to supply TRIK cane as TRIN cane. He prohibited other members to do so, who then complained to Mariono. Mariono argued their case but failed to convince the leaders of the TRI group. As a result some smallholders sold part of their TRIK cane to brokers as TRB cane. This created tensions between the leaders and members of the TRI group, and as a result the former's control over the members' cane declined.⁴⁰

These practices led to tensions with the TRI group leaders, the village head and other officials, who lost income because of it. The non-resident patrons then paid financial incentives to the officials of the TRI institutions, the village head, and the Islamic foundations, to guarantee that their interests were supported and that they would not be excluded from TRI credit during the next season.

³⁷ Members of Sahir's kin obtained credit for a much larger area than they actually cultivated, and non-kin for a smaller area. Mariono complained that in 1991 he supplied 53 tons sugarcane per hectare TRI credit, while Sahir's cousins only supplied 16 tons cane per hectare.

³⁸ Commonly the sugar content of the cane gradually increases during the first four months of the crushing season and then declines during the final weeks. I have no detailed information about the sugar content for the whole of the 1991 crushing season, but in September the sugar content for TRIN was 9.15% and 9.66%, in October, 10.35% and 10.22%, and during the first week of November, 10.32%. Up to 10% the outgrowers received 62% of the sugar, and for a sugar content above 10% they received 64%.

³⁹ Hajji Sukri cultivated TRIK cane in the Pakisaji and Lawang sub-districts of Malang district, as well as in the Blitar district. He sold TRIK cane in the Lawang sub-district to non-Malang mills as TRB cane. He supplied just enough TRIK cane from Pakisaji sub-district to repay the TRI credit to the KUD Lawang and the KUD Pakisaji. Of his cane in the Blitar district, he supplied sufficient TRIK cane to PG Kebon Agung to pay his TRI credit and sold the balance to the mill in Malang or Kediri that offered him the best deal.

⁴⁰ H. Rochmat bought 50% of a smallholder's cane, who used TRI credit and urgently needed cash. But when H. Rochmat wanted to harvest the cane he found that a broker had bought the other 50%. Hajji Rochmat had to find a solution; only a minimal amount of the cane was supplied as TRIK cane to repay the outgrower's credit, and the remaining cane was divided equally between himself and the broker.

5.6 Conclusions

Historically three linkage systems developed in Dadapan; the estate, the traders, and the credit-marketing contract form. During the late colonial period, PG Kebon Agung introduced its estate form of sugarcane production, which, with some changes in its land tenure linkages, still functioned in Dadapan. Then, as a consequence of local peasants' protest (1963) and central regulations (from 1976 onwards), the mill had to abandon the production form. But another form of externally directed production units emerged; non-resident traders and patrons leased the cane land from smallholders. During the 1970s internally directed linkages emerged when local patrons and later smallholders changed from food crop production to cane. After 1976, these non-resident and local cane growers obtained their working capital through TRI institutions, which implied trading restrictions, or through brokers (*cukongs*). In 1991 the three above mentioned linkage systems still functioned in Dadapan. In 1991, agriculture was still the major source of income in Dadapan. Labour-extensive cane production has replaced labour intensive food crops as the dominant economic activity. This extensification of agriculture and the limited potential for non-farm activities in Dadapan have made commuting quite prominent, because Dadapan is close to the urban labour markets. Men work as casual labourers in construction and transport, and women on more permanent arrangements in industries and shops.

The analysis of the organization of cane production in Dadapan showed five types of production units. A first sub-division was made between internally and externally directed production units and a second between estate- and outgrowers-managed ones. PG Kebon Agung used its hierarchical structure to control the organization and production techniques of cane production, but it made their overseers privately responsible for labour relations. Through this organizational structure, the mill maintained its technical and economic control, but avoided any responsibility for labour conflicts.

For outgrowers managed cane production, a further sub-division was made and four types of operational units were distinguished on basis of labour recruitment and production orientation: the smallholders' family farm, the smallholders farm, the patrons small-scale enterprise, and the regional entrepreneurs middle-scale enterprise. 84% of the outgrowers were smallholders, and one third of them relied only on family labour (smallholders' family farms), while two-thirds complimented this with wage labour. The latter's farms (smallholders farms) on the average were larger and the families experienced labour shortages as a consequence of age and off-farm-activities. 16% of the outgrowers had permanent teams of cane workers, who both cultivated and harvested their cane. Where the local patrons managed their cane farms as a single production unit, the non-resident patrons divided their farms into more than one production unit. These patrons and a few local outgrowers, who were involved in off-farm activities on a full-time basis, appointed one of their permanent cane workers as foreman. The outgrowers' credit arrangements had consequences for their involvement in intermediate forms of organization beyond their production units. In the official TRI programme, outgrowers were linked to the mill through the TRI groups, the cooperative, and the mill's extension workers, and in unofficial linkage through the brokers' networks.

In the production units related to the three forms of linkages, the leaders applied various production technologies to which different land, labour and capital requirements were tied. The mill practised the capital intensive Reynoso production techniques for the *sawah*, because for them sugar productivity had the highest priority. The outgrowers practised the ratoon production techniques on both land-use categories, although on *sawah* they tended the cane

crop more intensively. The most extensive ratoon production techniques were used by TRB cane producers: the poor smallholders and the patron-lessees without tenure security.

At the village level, the change from food crops to ratoon sugarcane production contributed to a commercialization and extensification of agriculture. In food crop production, the labour burdens were distributed over the community through gender neutral labour arrangements within the households and share-cropping arrangements between the households. These arrangements disappeared with the introduction of cane production. Reynoso cane requires more labour than the ratoon cane does, and a large part of this is in planting and weeding operations. For these tasks the mill's overseers still preferred to recruit female workers. Outgrowers economized on labour costs and skipped lighter field operations, such as weeding and removing dry leaves, which are done by poor women in the villages. Land tenure relations in Dadapan have resulted in a skewed farm-size distribution, especially in the *tegal* zone. A limited number of non-resident and local patrons, including the mill, gained control over 66% of the land planted with cane through land lease contracts. However, local patrons and a few smallholders increasingly competed with them on the land tenure market, and non-resident patrons therefore expanded their enterprises into dry-land areas, where rents still were low. If smallholders would take up commercial cane production the differences in farm-size could be reduced. However, the local patrons' dominant position on the land market caused the land ownership distribution in the dry-land area to become skewed even further.

For the externally directed linkages the land tenure and labour relations were critical and no marketing relations existed. The mill relied for their production units on the village head and overseers to resolve tensions in the land tenure and labour relations. The village head acted as the mill's land-lease agent and used political strategies to reduce local opposition against the land-lease deals. The mill kept central control over technical matters but delegated the responsibility for labour relations to their overseers. The village head and overseers acted as land tenure and labour brokers, for which the mill offered them financial rewards.

The non-resident patrons controlled small and middle-scale enterprises. At the village level they relied on their local agents, who were their foremen and overseers for land and labour relations, and on their agents for the credit and marketing relations. Their smallholder-lessors demanded links between land tenure and labour arrangements, and they organized a team of permanent cane workers with a foreman. These foremen mediated in their patron's land lease contracts. The patrons preferred piece-rate above daily-wage labour arrangements for activities that could be easily supervised. For their money lending and trade activities, they relied on their trading agents, to whom they provided capital to buy cane.

The mill and the non-resident patrons used similar strategies. Through these organizational strategies, the mill and brokers protected themselves from social conflicts, which are commonly associated with the estate form of agro-industrial linkage. The brokers only indirectly involved themselves in cane production by financing the production through their agents. They made patrons and overseers responsible through commission and profit sharing arrangements. These agents arranged the lease contracts and organized the cane's cultivation and harvest. The brokers also provided them with capital to buy cane and to give loans or advance payments to local cane patrons, which had to be repaid with cane.

The externally directed linkages prevented any politically inspired opposition against their economic interests at the village level, by paying financial incentives to the village elites, both the formal and religious leaders.

The smallholders' family farms did not have conflicts of interest in their land and labour relations, but rather in the credit and marketing relations. The smallholders owned the cane holdings and used family labour. Some smallholders leased small holdings and supplemented

family labour with wage labour, but they used commoditized forms of exchange labour with other smallholders, and paid daily wages to farmhands in their neighbourhood. The smallholders had problems in obtaining TRI credit because of coalitions in the TRI group that favoured own kin and patrons in credit distribution. When they did manage to obtain these funds, the TRI groups tried to strictly apply the official marketing regulations to them.

The local patrons used personal networks at the village and sub-district levels to organize their farm and trade enterprises. They rented land holdings through money lending and future land lease arrangements with poor smallholders. They supplemented family with waged labour, for which they organized a team of permanent cane workers of landless and marginal smallholders from their neighbourhood, whom they bound to themselves by advance payments and loans. The local patrons had arrangements with the TRI group and the KUD Pakisaji, as well as with brokers in Pakisaji. Using these, they obtained their working capital and sold their cane. These commercial relations enabled them to maximize their income through agency, cultivation, and trading activities.

The brokers, like the mill, delegated the responsibility for labour relations to their overseers or foremen. These had or were part of a team of permanent cane workers. However, where local patrons have multi-stranded relations with their labourers, the regional ones limited these to their foremen, whom they bound to themselves through advance payments on labour contracts. The patrons had the advantage of providing regular employment, in which the poor households in Dadapan are interested. It is therefore not surprising that the mill's harvest overseers rather than the patrons experienced problems in their relations with cane cutters. They did not provide stable employment, their relationships were single-stranded, and their cane cutting tariffs were among the lowest. Many cane workers working in the same cane field, bound to the overseers only by advance payments, could easily coordinate their actions and bargain for a better pay.

For the marketing relations, the local and regional patrons had the option of deciding which linkage to use. These commercial cane growers would critically compare the net returns they received in the various linkages.

It can even be said that internally directed linkages, i.e. smallholders and local patrons, were tied to the TRI institutional structure through their dependence on the official TRI credit programme. Both types had few internal problems with land tenure and labour relations, while their social tensions were related to the functioning of the TRI institutions, the TRI group and cooperative, that coordinated the credit and marketing relations. In these institutions there were tensions between top-down and bottom-up pressures in the implementation of the credit and marketing regulations. In the aftermath of the village head election, the struggle between the factions continued in the TRI group covering the irrigated area. The encounters focused on the selective implementation of the regulations with regard to the cane grower's kinship ties or the financial interests of its leaders. The struggle took place through the personal networks of the supporters of the different factions. In these networks, the informal gatherings after the evening praying sessions were important events at which information about new developments was exchanged.

The actors in the externally-directed linkages in cane production, the mill's estate, brokers and non-resident patrons, organized their social relations of cane production and trade through local intermediaries. To them they delegated the responsibility for these relations, and thereby for preventing and solving social tensions at the village level, in exchange for financial gains. To obtain local political backing for their economic activities, these actors gave financial incentives to the village elite.

Owners of large farm holdings in the sub-districts Gondanglegi and Bululawang were the first cane planters in the district. The two sub-districts still form Malang's sugarcane belt and the Gondanglegi sub-district, where Sidodadi is located, is the heart of PG Krebet Baru's procurement area. In the sugarcane belt, formed by the irrigated young volcanic soils, farmers plant cane on more than 50% of the arable land. Cane yields are high, up to 160 tons per hectare, making it difficult for other cash crops to compete.

Before the mill introduced the estate form of production, local Sidodadi patrons already produced cane. Some of these patrons played a leading role in opposing mill-managed cane production and in establishing a monopoly for outgrowers forms of production in the mill's procurement area. Several regional political, administrative and economic leaders live in Sidodadi, resulting in an intensive interaction between actors in the sugar product-line at the village and sub-district levels.

This chapter is structured similarly to the previous one. I first deal with the ecological and historical contexts of sugarcane farming, and with contemporary socioeconomic conditions in Sidodadi. I next present the organization of cane production and its impact on social relations in the production and marketing of the crop. In the final section the conflicts of interest and the strategies used to prevent and control them are discussed.

6.1 Ecological and Sociopolitical Conditions in the Sugarcane Belt

Sidodadi lies in the Malang plain, about 28 km south of the city of Malang, and 300 meters above sea level. This flat plain is intersected by the Brantas river, on the eastern side of which the volcano Semeru has deposited deep volcanic soils. On the crests the dominant soils are sandy and loamy alluvial soils while in the basins they are heavier sedimentary ones. The deep and well drained soils in Sidodadi are very suitable for cane production, the heavier ones also being suitable for rice cultivation.

The climate in Sidodadi is warm with a dry season of four months a year. The mean annual temperature is 25 ° C and the average rainfall is about 2400 mm. The rainfall is well spread, with five wet months with more than 200 mm per month, and four dry months with less than 100 mm.¹

Initially the arable land in Sidodadi was mainly dry land. Only 25 ha land could be irrigated through weirs from the small streams that passed at the south-eastern border of the village. Around 1905 the colonial government constructed the Kedung Kadang weir and the Bango Sari irrigation system on the eastern bank of the Brantas river. Through this system the irrigated area in Sidodadi increased from 25 to about 446 ha.

Two waves of settlement were of relevance for Sidodadi. Settlers from Central Java and

¹ The climate is classified as C3/low land in Oldemans's definition of agro-climatic zones (1975).

western East Java founded the village during the early nineteenth century. They came from the Solo, Yogyakarta, Madiun and Kediri areas, and moved into the forested area of the South Malang plain. These settler families encroached on the forest where they practised dry-land farming. Between 1870 and 1890 many Madurese families moved to the Malang district, looking for work in agriculture. In Sidodadi they worked as casual labourers or tenants for wealthy families living in Krajan. These families offered them the usufruct rights of small plots in the hamlet Siwalan, where they could construct their homes.

The villagers applied an inheritable tenure system for the dry-land area and a communal one for the *sawah* area. In chapter four I explained that the village elites in the Malang plain claimed private ownership of large dry-land holdings, and, as was common in the dry-land zone, used an inheritable tenure system (*yasana*). For the 25 ha irrigated land they followed the supra-local administrative elites, who imposed a communal tenure system (*gogolan*). After the construction of the irrigation system, the colonial government and the mill wanted to impose a communal tenure system for all irrigated holdings, a policy which the land owners fiercely opposed.

Sidodadi consists of two hamlets, Krajan and Siwalan.² Krajan is the central hamlet, which together with the neighbouring village forms the regional centre. Like many of the villages in the South Malang area, Sidodadi is a multi-ethnic community. The Javanese are the dominant ethnic group in Krajan. In second place are the Madurese, followed by some Chinese, Arab and Acehnese households. The Chinese and Arabs are engaged in trade and also farm, the Acehnese are public servants. Siwalan is an agricultural settlement located ribbon-like along the asphalt road that connects Gondanglegi and Kepanjen. The dominant ethnic group there are the Madurese.

The larger landholders and traders introduced sugarcane production to Sidodadi, having been acquainted with it and brown-sugar production in their area of origin. Especially the former liked cane because it was a relative labour extensive crop, well suited to the local agro-ecological conditions. Around 1900 foreign entrepreneurs also extended their cutting (*bibit*) enterprises to Sidodadi. Western and Chinese brokers in agricultural products, such as coffee, brown-sugar, rice and maize, had their offices and houses in Malang and in Gondanglegi.

Mill managed production of reynoso cane on irrigated land was introduced around 1910. The mill introduced the *glebakan* system for 25 ha irrigated communally owned land with the backing of the colonial government. However, for the irrigated area with a private tenure system, the mill depended on the owners' willingness to lease. Especially the larger landholders could resist the pressure to do so and continued to cultivate cane, either for cuttings (*bibit*), to sell to the mill, or to process into brown sugar.

A particular cropping pattern developed in the irrigation command area. The mill used the irrigation water during the dry season (May till August-November), and the local communities had access to it during the remaining period. The mill irrigated only a limited cane area because the system's water discharge capacity was limited and the young volcanic soils had a high rate of percolation. Peasants uprooted the cane crop and planted food crops for two or three rainy seasons, maize during the west monsoon and irrigated rice during the east monsoon. The owners of large holdings, who controlled a brown sugar mill, cultivated ratoon cane and had a particular cane variety, which was well suited to *tegal*.

The Madurese moving into the Malang district between 1880 and 1920 also worked as

² Krajan is derived from *Ke-raja-an*, referring to the place where the king (*raja*) lived.

farm hands for local patrons. In Sidodadi they became wage labourers or tenants for the families controlling large holdings. The employers lent them small plots on which to construct their dwellings. These quarters are known as *Kampung Madura* or Madurese hamlet, and in Sidodadi are located in the hamlet Siwalan. Later, several successful Madurese overseers, farmers and traders in Gondanglegi's hinterland³ bought land from Javanese landowners in Krajan for housing and cane production.

After 1920 the *ulamas* transformed the Sarekat Islam movement into the NU organization, the dominant political force in Gondanglegi. In chapter four I dealt with the tensions between the red and the green factions in the Sarekat Islam. In the Gondanglegi sub-district, the Islamic leaders opposed European and Chinese entrepreneurs seizing the forward-linked economic opportunities created by agricultural growth in the South Malang area.

After 1942 the Japanese instructed the farmers in Sidodadi to shift from sugarcane to food crop production. The farmers had to plant maize, rice and soya beans, and had to deliver the yields to the Japanese authorities, who returned only a small share to them. The Japanese stimulated the NU and the Muhammadiyah organization to cooperate as one political party, the Masyumi. Although politically there was some room to manoeuvre, economically this was a very harsh period.

In 1945 the Masyumi leaders in Gondanglegi, among whom the local NU leaders predominated, formed the Hizbollah Muslim militia to defend the republic against Dutch aggression, transforming the NU youth organization. When in 1947 the Dutch military forces occupied the Malang township and the local Republican government moved to Gondanglegi, the Hizbollah militia cooperated intensively with the nationalist people's army, coordinating the destruction of foreign owned property, including in 1948 the Kreet mill.

After 1946 the local patrons took up the production of cane and brown sugar again. First they expanded their cane area and sold young cane as *bibit*, crushing mature cane into brown sugar. From 1950 on, PG Kebon Agung started to buy outgrowers cane in Sidodadi. In 1953 formal and informal leaders from Sidodadi were among the founders of the IMA Petermas (*Inlandse Maatschappij op Aandelen Persatuan Pemilik Tebu dan Penanam Tebu Rakyat Malang Selatan*), the outgrowers' organization for the Kreet Baru mill. Three of its founders lived in Sidodadi, where they were respectively village head, *ulama* and a prominent trader in agricultural products.⁴ The *ulama* and the trader were elected as first and second treasurer and the village head's son became the first commissioner for Petermas in Sidodadi (Petermas 1971).

In chapter four I dealt with the conflicts between the Petermas leaders and entrepreneurs on the one hand and the leftist organizations on the other. The communist farmers' and farm labourers' organizations, BTI and SBT, organized several protests against the NU patrons and IMA Petermas. Strikes and the burning of cane belonging to greedy NU entrepreneurs were two common forms of protest. Conflicts also emerged within the Petermas's leadership about the organization's policies. The treasurers, for example, had different ideas about the internal structure and the financial administration of the outgrowers' organization. In 1955 H. Misdi resigned from the committee because he refused to take co-responsibility for the

³ Before 1940 the Gondanglegi sub-district also covered the present Bantur and Ganjaran sub-districts. Gondanglegi was the sub-district's administrative centre and with Wonokerto the region's commercial centre.

⁴ H. Misdi's father was an Arab trader in agricultural products and his mother was Madurese. H. Misdi and his wife had specialized in the trade in brown sugar and sugarcane. They also acquired a larger farm.

first treasurers' financial policies. Committee members increasingly used their position and the organization's funds for their private trading projects.

Financially Petermas did well and it made contributions to Islamic foundations. In 1954 it founded a medical clinic for its members in Gondanglegi and also constructed an office, store, and a shop in Sidodadi. The organization made major contributions to the *Madrasah* and the Islamic foundation that founded and managed an Islamic hospital in Gondanglegi. Privately the committee members also did well, gradually accumulating more land.

The leadership and local patrons increasingly became involved in the trade in sugarcane and sugar certificates. Because Petermas had the monopoly on supplying cane to PG Krebet Baru, some young traders in Gondanglegi founded a sub-district branch of PKTR, the outgrowers' organization at PG Kebon Agung. These traders annually obtained credit funds for about 400 ha cane through that organization. They received commissions from Kebon Agung and traded in sugar certificates, like the Petermas committee members did. Chinese brokers also operated in this market and cooperated intensively with the both leaders of the outgrowers' organization and the village government. They developed networks of agents and overseers, lent money to cane patrons, leased land and produced cane, and bought sugar certificates for sugar brokers in Malang and Surabaya.

The events of 1965 had little effect on the outgrowers' organizations in Gondanglegi, both of which were controlled by NU entrepreneurs. The local leaders of the peasants and cane workers organizations affiliated with the communist party, some of whom lived in Sidodadi, were assassinated or jailed. With the dismantling of these organizations, open labour conflicts between the patrons and the cane workers ceased.

After 1968 the sugarcane production in the district grew faster than the mills' capacity. The logical consequence was oversupply of cane at the mills and a prolonged crushing season. The mill's officials and the outgrowers' leaders became involved, in giving preferential treatment to cane in which they had economic interests. Brokers controlling large cane areas bribed officials of the mill and cooperative in order to obtain extra cane transport orders and lorries. These practices harmed smallholders because they could not afford to pay the bribes. As a consequence many smallholders offered their cane cheaply to cane traders rather than risking it being crushed too late.

Brokers and traders looked for alternative marketing channels in order to overcome the bottle-necks in Malang's sugar industry. In 1971 H. Misdi involved the armed forces' cooperative, Primkopad, in the sugarcane trade. Through this joint venture the trader gained political protection for his inter-district sugarcane trade projects, and the military prevented the police from hindering cane transports. In 1972 the military gave the sugarcane trade concession to a Chinese trader from Surabaya. H. Misdi then withdrew from the joint venture and made an arrangement with the *Serba Usaha* cooperative of the Kosgoro organization.⁵

In 1976 the official sub-district cooperatives (BUUD) had to amalgamate with the outgrowers organization. The outgrowers' organizations of both Malang mills (Petermas and KPTR) opposed this amalgamation, but in 1978 a compromise was negotiated. Petermas,

⁵ Kosgoro (*Kesatuan Organisasi Serbaguna Gotong Royong*) or union of multi-functional mutual aid organizations, is one of the Golkar's functional groups, founded by the military to spread the ideology of mutual aid and cooperation.

KPTR and BUUD amalgamated into one cooperative: the KUD Ragaseparih.⁶ The two outgrowers' organizations were controlled by NU supporters, while Golkar members controlled the BUUD. Since the cooperative's programme was highly political, the local government persuaded the leaders of the outgrowers' organization to move to the new cooperative. The chairman of Petermas was also KUD Ragaseparih's chairman from 1978 until 1980. Also, staff members of the three organizations were employed by KUD Ragaseparih. After the amalgamation, the Primkopad and Serba Usaha cooperatives withdrew from the sugarcane business.

Since 1978 PG Kreet Baru had been responsible for the administration of TRI credit, but during the 1980/1981 season KUD Ragaseparih received this task. In Sidodadi, the village head, Kusnadi, managed to have his cousin appointed chairman of the TRI group.⁷ Between 1976 and 1983 the cane area, and the area for which TRI credit was distributed, increased sharply in Sidodadi. After 1981 there also were political grounds for this. The village and TRI group leaders started to include fictive cane area into the credit administration, Kusnadi and his cousin adding 30 ha, which was registered to the local overseers of Wardi, a Chinese broker from Malang.⁸ These projects caused the quality of the services provided to the cane growers by the TRI institutions to deteriorate. Members often received only part of the credit, and had to check the receipts carefully because numerous mistakes were made in the outgrowers' accounts. Only when vocal outgrowers complained to the TRI group leaders and threatened with police intervention, were improper deductions returned to them.

In 1983 a coalition of several entrepreneurs and formal leaders, in which H. Misdi played a coordinating role, protested against the poor services given by the cooperative. 80 sugarcane patrons in the sub-district signed a petition to the local government, requesting the formation of a second cooperative to improve the services of outgrowers organizations through competition. The district government did not allow this action by the *Petisi 80* group and offered their leaders, including H. Misdi, a position in the new committee. Some of these leaders quickly adjusted themselves to the cooperative's "culture", while others resigned when their attempts to change the functioning of the cooperative failed. The cooperative increasingly experienced problems in repaying the TRI credit, but for political reasons the district government refused to disclose these.

In 1987 the BRI bank refused to give KUD Ragaseparih a new loan for TRI credit because the cooperative was unable to repay 95% of its TRI debts of the previous season. A first investigation showed that in 1987 KUD Ragaseparih owed Rp. 1,500 million in unpaid TRI

⁶ Ragaseparih is an abbreviation of the Javanese proverb "*Rame ing Gawe, Sepi ing Pamrih*" which means 'Work hard without worrying about personal gain'.

⁷ In 1972 a new village head was elected in Sidodadi. The first village head elected after Independence was succeeded by the Javanese Kusnadi, the NU candidate backed by Javanese and Madurese smallholders.

⁸ Villagers stated that Kusnadi and his cousin used these funds to speculate on the cane futures market (*ijon* and *tebasan*). Kusnadi, his cousin Wardi, and the mill's officials cooperated intensively in cane trade activities and the organization of the cane supply to the mill. When the cane supply stagnated, Wardi, for example, paid between Rp. 5,000 and Rp. 15,000 per lorry to the mill and later to the cooperative officials as well, to supply his cane to PG Kreet Baru. In 1983, when the trucks queued in front of the mill, Wardi brought his TRB cane by truck to an emplacement for cane lorries in Sidodadi. His local overseers and cane workers reloaded the cane on lorries arranged for him by the mill's officials. Local patrons in Sidodadi spoke of a lucrative trade project coalition between the mill officials, local government officials, and the Chinese broker.

credits. The local government reorganized the cooperative's leadership and various procedures were introduced to improve the repayment performance.⁹ However, between 1987 and 1989 debts again increased to Rp. 2,800 million and the BRI refused to extend new credit to the cooperative. The police and the military investigated the case, in which they made extensively use of the Krebet Baru mill's financial account.

To summarize, during the colonial period the outgrowers and estate forms of sugarcane production functioned side of side in Sidodadi. The patrons introduced sugarcane production for brown sugar and cuttings which they sold to sugar mills. Between 1925 and 1941 the colonial government forbade the mills buying outgrowers' cane, and as a consequence the organization of brown and crystal sugar production diverged. The mills had to produce the cane themselves but the village elites, *ulamas* and entrepreneurs refused to lease their land to the mill. After 1949 they forced the mill to rely only on outgrowers cane and the patrons gradually shifted from brown sugar production to selling their cane to the mill. Initially brokers and patrons controlled both cane production and the outgrowers' organization. After 1981 the village heads and their clients dominated the distribution of subsidized TRI credit, which in Sidodadi also led to the mismanagement of the credit program. Poor service to the cane growers and the emergence of bad loans undermined the prestige of the village head and his clients. The government officials hesitated to intervene in the debt debacle, and their influence over the TRI groups declined to the advantage of the local patrons.

6.2 Contemporary Socioeconomic Conditions

Population densities in Sidodadi are high, but about the average for the Malang plains. In 1991, 8,250 inhabitants lived in 1,887 households resulting in a population density of about 1,442 inhabitants per square kilometre. The area of arable land per household was only 0.24 ha. With 54% of the households landless, however, the farming households had an average of 0.53 ha land. The households involved in cane production on the average cultivated 1.75 ha cane.

Table 6.1 Area, soil texture and major crops per land-use type

Land-use types	Area	Soil Texture	Major crops
Sawah	454 ha	sandy loam	cane/rice/citrus/others
Tegal	13 ha	loam and sand	Sugarcane/maize/cassava
Settlement	106 ha	loam and sand	Fruits/vegetables

Source: Village government 1991.

Sidodadi covers an area of 573 ha of which 467 ha is used for agricultural purposes and the remaining 106 ha for settlement. From the land resources about 490 ha are private, heritable holdings, 26.75 ha are salary lands (*tanah bengkok*), and the remaining area is state-owned

⁹ The *ranting* system was introduced, in which the cooperative deducted Rp. 10 per 100 kg cane from all outgrowers, which they only received when all group members had repaid their TRI credits for the season.

land.¹⁰ Through the Kedung Kadang irrigation structure, about 446 ha can be irrigated. However, wet-rice can only be produced on a much smaller area during the wet season, preferable on the clayey loam soils, because of limited water discharge capacity and high percolation.

Sugarcane was the major agricultural crop during the 1990/1991 season. About 80% of the arable land in Sidodadi was planted with it and 58% of the farming households were involved in its production. The other 20% of the arable land was planted with food crops like rice, maize, and beans. Smallholders planted around five hectare with vegetables like tomatoes, chilies, and eggplants, and some patrons planted a similar area with orange trees. Households controlling small to marginal holdings were the ones involved in food crop production. Annually they cultivated a maize and a rice crop, a third crop depending on the availability of water. Some smallholders planted only rice, but these ones were cultivating plots with clayey soils near the irrigation canals.

Agriculture was the major source of income in Sidodadi. In 1991, 69% of the households living in Sidodadi had agriculture as their main source of income. In Siwalan almost all households depend on agriculture, mainly cane production. This gives a seasonal character to hamlet-life, which comes to a peak during the cane harvest. In Krajan the agricultural sector is closely followed in importance by the public and private service sectors. Shops, workshops, transport and other private enterprises serve the sub-district population. These shop owners trade, for example, in foodstuffs, clothing, building materials, both for retail and the intermediate trade. Most houses in Krajan have electricity, a drinking water project was under construction in 1991, and the leading traders can be reached by telephone. Further, the sub-district government, the mill, the cooperative, and two banks have offices in Krajan. These, services, trade and transport, are important sources of non-farm employment and income in Krajan.

The members of families controlling marginal farm holdings increasingly rely on off-farm and non-farm activities. However, aside from work in the cane fields, opportunities for off-farm employment were limited in Sidodadi. One entrepreneur managed a workshop where he employed about 60 labourers, mainly men, on a permanent basis. These made wooden carriages for trucks, and construction materials. Additionally there were some cottage industries in Sidodadi making construction materials and processing food, but these employed only few labourers. Industrial labourers therefore had to travel to the Malang township or even further to get work.

Inter-generational shifts from farm to non-farm employment are very common in Sidodadi. The households are aware that education is the key to social mobility in modern Indonesia. When they can afford it, they invest in the education of their children. Children of the wealthier families in Krajan attend junior and senior secondary schools, and tertiary educational facilities in the city of Malang. These families have relatives in Malang, or even own one or more houses there themselves. Many of these children remain in the city when they finish their secondary or tertiary education and become involved in non-farm activities. Less wealthy families send their children to Islamic secondary schools in the Gondanglegi

¹⁰ The village head, the secretary and the two hamlet leaders received the usufruct rights to respectively seven, three and 1.5 ha *sawah* salary lands. The remaining six village officials each had one hectare. The officials used to rent the land to entrepreneurs. In 1991 the local government decided that the salary lands had to be rented out by the village government. From the rents the village officials received a salary in conformity with the official criteria. In 1991 the officials rented their salary lands from the village government for Rp. 500,000 per ha.

and Bululawang sub-districts. Children of the poorer families often only attend primary school, after which many of them move in with relatives in Jakarta, Bandung, Surabaya or Bali to try to find non-farm employment. They become engaged as labourers in modern industries or the informal urban sector. As a consequence, cane producers in Krajan complain that they have problems recruiting cane workers, forcing them to increase the wages or recruit cane workers from more isolated villages. Another important consequence was that through their children the Gondanglegi elite was able to establish links with the political and religious elites in the city of Malang.

International migration was important in Sidodadi, especially among the Madurese households. More than 200 persons, mainly young women from Siwalan, worked as house servants in the Middle East. These migrants come from smallholders and poor families, whose children are usually recruited through local religious leaders acting as intermediaries (*calo*) for Islamic foundations in Jakarta. The migrants send remittances to their parents and money lenders. Youngsters also migrated through official and less official channels to Malaysia and Singapore, and more recently also to Hong-Kong and South Korea.

After this discussion of the economic conditions in Sidodadi let us now move on to sociopolitical aspects. In 1990 a new village head was elected in Sidodadi. This encounter between the contestants is a good framework through which to analyze the relative strengths of the coalitions behind them.

The regional political elites and the leading cane brokers all live in the central neighbourhood of Krajan. Along the main street in Krajan, where the main roads from Malang, Turen, Kepanjen and Bantur intersect, the sub-district offices of the local government, the army, the cooperative and the banks can be found. Between these office are the villa's belonging to the *camat*, the military leader (*danramil*), a member of the local House of Representative, and another of the People's Assembly. Entrepreneurs with leading positions in the cane growers organization also live there. Both regional representatives both have their roots in the NU youth organization and were both involved in the KUD Gondanglegi, respectively as manager and committee member. The fact that these regional elites live in Krajan reduces the distance between the political arenas at the village and district levels.

During Sidodadi's village head elections, four candidates applied but the district government allowed only three of them stand for the position. The four who applied were: (1) the village secretary, Lukman, (2) a TRI group chairman, Mujito, (3) a trader with a Muhammadiyah background, and (4) an *ulama* leading a *Madrasah* school in Sidodadi. Lukman and Mujito were both related to the village head, Kusnadi. Kusnadi first approach Mujito to succeed him, but shifted to Lukman when Mujito refused his conditions pertaining to the use of the salary lands.¹¹ The third candidate represented the shop owners and the Muhammadiyah organization. The district government did not allow the *ulama* to enter the contest. Mujito was elected TRI group chairman in 1989 and provided far better services to the cane growers than his predecessor had. He therefore obtained the support of the local cane entrepreneurs, who had grievances against Kusnadi and his clients based on manipulations of the TRI-credit programme for their personal gain.

¹¹ Kusnadi proposed to support Mujito's candidacy in return for the usufruct rights to the village head's salary lands. The rumor went that Kusnadi repaid his TRI credit debts and financed the campaign through the advance payment of a land tenure arrangement with Wardi. In 1990 Wardi leased Kusnadi's salary land for a period of eight seasons.

Sumartono (1995:267-283) has recently analyzed this election. He describes the strategies of the different factions and shows how the campaign leaders formed action-sets involving hamlet and neighbourhood leaders. Kusnadi coordinated Lukman's campaign, involving the formal village leaders such as hamlet and neighbourhood (RT) heads. Mujito's uncle, also a village official, coordinated the Mujito's campaign, and he involved relatives, NU leaders and cane patrons at the hamlet and neighbourhood levels in his coalition. Mujito won the election with a small majority and could then move to renew the village government. To be effective he had to win the allegiance of the formal leaders and reward his influential supporters with public positions. Mujito had problems obtaining the usufruct rights to the village head's salary land.¹²

Sidodadi is also an important centre for the NU organization in the Gondanglegi sub-district. In the village there are several Islamic boarding schools, about fifty households have their own prayer house (*langgar*), and there are four mosques. Every Thursday evening the male household heads in many neighbourhoods (RT) attend prayer gatherings (*tahlil*) and make their contributions to the neighbourhood social fund. Through these funds the households in a neighbourhood assist each other in ritual activities such as marriage and funerals, and help the real poor households in case of need.

In 1991 the district government helped an influential *ulama* in Siwalan with the construction of a new mosque through the BANPRES programme. This was seen as a symbolic reward for his support of the Golkar party. Others interpreted it as a symbolic punishment for the Krajan *ulamas*, who then were collecting funds to enlarge the central mosque in Gondanglegi, for their loyalty to the Islamic party (PPP).

To summarize, Sidodadi still has an agricultural economy with a strong service sector in Krajan. Trade, workshops, transport, and social services are the major sources of off-farm employment and income. Educational levels are in Krajan relatively high and as a consequence so also migration among the youth. Limited opportunities for non-farm employment cause the young with primary and secondary educations to try to find jobs in the cities. International migration to the Middle East has grown in importance for Madurese girls from poorer households. More recently, both Madurese and Javanese adults are also recruited for work in Asian Tiger nations. Where the NU along with the officials and cane patrons played an important role in local politics, at neighbourhood level it stimulated cooperation in religious and ritual activities and created a poor relief fund. The local government was aware of the importance of the NU and tried to gain more influence over its leaders.

6.3 Contemporary Organization of Sugarcane Production

For the 1989-1990 season, the Kreet Baru mill reorganized the TRI groups in Sidodadi, taking responsibility for the TRI credit programme and introducing smaller cane areas per TRI group. Until 1985 one TRI group administrated the TRI credit program. This group then split into two, led by a cousin and a son of Kusnadi, the village head. In 1989 the mill again divided both TRI groups. Because of accumulated debts, Kusnadi's cousin was forced to resign and the mill and village government organized elections to select new leaders for the

¹² Wardi, a Chinese cane broker, incurred a big loss on the tenure deal he had made with Kusnadi. When Kusnadi's candidate was defeated and Mujito obtained his salary land, Wardi lost the usufruct rights to the 5.5 ha of the 7 ha he had rented from Kusnadi.

TRI groups. Only cane producers who owed no TRI debts and owned land were accepted as candidates for the functions.¹³

The village head and the local entrepreneurs backed different candidates for the positions of chairmen. The village head wanted to manoeuvre his clients into these positions since there was considerable financial gain attached to them. The patrons wanted to appoint chairmen who were committed to improve the quality of the services offered to the cane growers. In the area south of the asphalt road, where smallholders were in a numerically prominent position, Kusnadi's son and a Madurese hamlet official were elected. In the area north of the asphalt road, where the patrons were prominent, two farmers with strong links to the NU won. The patrons campaigned for Kabul and Mujito; Kabul was a Madurese *ulama* leading GP Ansor's brass band in Siwalan, while Mujito was the son of a Javanese farmer and cattle trader.¹⁴ When Mujito was elected village head, his cousin succeeded him as chairman of the TRI group.

The leadership of the cooperative was also reorganized during the annual meeting in 1990. Three of the six committee members resigned and three new members were elected. For the post of manager, the cooperative in May 1990 recruited the son of H. Misdi, recently returned from Germany.¹⁵

PG Krebet Baru, like PG Kebon Agung, organized a milling festival at the start of the crushing season. During this event the managing director of PT Rajawali Nusantara Indonesia reported on the achievements of the last crushing season and the mill's objectives for the new one. The district leader explained Satpelbimas's marketing policy for the forthcoming season, arguing that as long as the Malang mills experienced cane shortages, the local government would not allow brokers to export TRB. However, this policy should not lead to lower cane prices in the district than outside.¹⁶ In May and September 1991 the mill organized two FMPW meetings at its central compound to which it invited both the village and the TRI group leaders in the Gondanglegi district. During the first meeting the cane supply procedures and cane cutting and transport tariffs for the 1991 crushing season were discussed and during the second meeting the crushing season's progress and the TRI credit programme procedures for the 1991/1992 season were reviewed. Both meetings were closed with communal meals, during which the mill's senior managers approached village heads like Mujito, who had been critical of the mill's marketing policies.

In Sidodadi five types of production units can be distinguished: the smallholder family farms, the smallholder farms, the overseer production units, patrons, and regional patrons enterprises. There was no significant correlation between the types of production units and

¹³ This criteria was seen as an indication by TRI group members that the government made them individually accountable for debts incurred by group members.

¹⁴ Mujito obtained his secondary education at a *Madrasah* and later worked as a meat seller in Bandung for his father. Kabul and Mujito nominated younger siblings for the post of secretary of the TRI group. They argued that they only wanted to cooperate with a secretary/treasurer for whose financial maneuvers they were willing to take responsibility.

¹⁵ Hajji Misdi's son graduated as agriculturalist and business administrator in Germany and also worked for several years in a trade company in Hamburg.

¹⁶ For a more detailed description of the festival see Appendix 4.

its manager's residence.¹⁷ The four regional patrons lived in Sidodadi and had all been involved in the leadership of the outgrowers' organizations since the 1950s. Local patrons controlled cane areas outside Sidodadi similar to those controlled by non-resident cane producers.¹⁸ 28 local cane growers controlled about 95 ha cane outside Sidodadi, one of them 34 ha. 35 non-resident cane producers controlled 102 ha, of which 54 ha was located in Sidodadi.

Table 6.2 Cane area of the different cane growers categories in 1991

Type of production unit	N	%	Average farm size (ha)	Cane area (ha)	%
Smallholder family farms	38	18	0.24	9.2	3
Smallholder farms	130	63	0.76	100.5	36
Overseer production units	6	3	3.36	20.2	7
Patron enterprises	30	14	4.02	120.7	43
Regional patrons enterprises	4	2	7.58	30.3	11
TOTAL	208		1.30	280.6	

Source: Author's census of cane producers

The smallholder farm types were numerically prominent, but the patron types predominated in the cane area they controlled. Only 18% of the cane producers ran their production unit as a smallholder family farms. They cultivated an average of 0.24 ha, and thus controlled only 3% of the cane area. The smallholder farms accounted for 63% of the cane growers who on the average cultivated 0.76 ha cane, and as a group 36% of the cane area. Six overseers managed their own production unit, independent from their patron landowners. They cultivated 20.2 ha or 7% of the cane area in the village. The local patrons controlled farms with an average size of 4.02 ha; accounting for 14% of the cane producers but controlling 43% of the cane area. The four regional entrepreneurs, 2% of the cane producers, controlled 11% of the cane area.

The owners of the smallholder and patron types of production units used different management strategies. In 84% of the cane producing households, the male or female head of the household managed the cane, which covered all smallholder family farms. 33 cane growers (16%) delegated the organization of the labour to relatives (8), foremen (16) or to overseers (9).

In Sidodadi many overseers are involved in cane production but the organizational arrangements and relations under which they operate vary widely. They manage autonomous units, integrate the supervision of others' cane into their own enterprise, or are closely supervised by the cane owner. Below I will illustrate the arrangements under which they operate in three categories of production units: the overseer production units, the local patron

¹⁷ The smallholders' family farm type is under-represented in the non-resident category in comparison to all cane producers (8% versus 20%). This was the reverse of the patron's type (22.8% versus 15.6%). The average farm-size of local and non-resident patrons did not differ much.

¹⁸ During the colonial era Sidodadi was one administrative unit with its neighbouring village. *Tegal* owners lived in both villages, but the major share of the *tegal* areal was located within Sidodadi's borders.

enterprises, and the regional patron enterprises.

Ranu owns 0.20 ha land in Sidodadi on which he cultivates cane with his household members. In 1991 Ranu also supervised the cultivation of 0.5 ha cane owned by a local Chinese trader, 2.5 ha cane owned by his sister-in-law, and 2.5 ha owned by his cousin Mujito, the village leader. Ranu has arrangements with four male neighbours with whom he forms a team, and he also involves five female workers in the lighter field operations. He and his team also harvest the cane when the owners sell it as TRB cane. Ranu gets the same daily wages as his cane workers, he receives and divides the lump sums for piece rate contracts, and he receives a commission of about 5% of the net cash income of the cane.

Hajji Akhmad succeeded his father as cane overseer for the former chairman of Petermas and a Chinese cane broker, who both live in the city of Malang. In 1991 H. Akhmad managed ten ha cane located in several villages owned by the former chairman and five ha for Wardi, which he leased from the village head Kusnadi. For his management the Madurese overseer receives a share of 20 to 25% of the profit. This is decided by the cane owners. H. Akhmad owns two ha cane land and leases 1.5 ha land from two village officials, two landowners in Malang and two neighbours. He has 25 male and 17 female cane workers working for him on a regular basis on the 18.5 ha cane he manages.

Hajji Zainal farmed in the Bantur sub-district and acquired a farm of 20 ha. In 1981 his son obtained a grade in agricultural science and took over the management of his father's farm in Bantur, after which the Madurese entrepreneur bought a villa in Sidodadi. In 1991 his son managed 30 ha cane on dry-land and H. Zainal was responsible for 12 ha cane on irrigated land and for the cane trade. H. Zainal appointed two overseers in Siwalan, who respectively care for 3.6 ha and 4.6 ha cane in Sidodadi and a neighbouring village. H. Zainal supervises them and two other overseers in Kepanjen sub-district. Each of these overseers has his own permanent team of cane workers (*kuli langganan*), made up of relatives and neighbours. The overseers receive the lump sums for the piece-rate contracts and arrange the division of these funds among the team members. For daily wage arrangements they receive a double wage for their supervision, and after the cane harvest they receive between Rp. 20.000 and Rp 30.000 per hectare, depending on the cane yields obtained.

As table 6.3 illustrates, cane producers in all farm-size categories appointed foremen and overseers. Some entrepreneurs already used these foremen or overseers for decennia. As H. Akhmad's case shows, the position may also be passed from father to son. Experienced cane growers cultivating smallholders offer their services as overseers to landowners engaged in off-farm activities, as an alternative to leasing their holdings. But smallholders involved in well paid off-farm activities also engaged overseers and foremen in cultivating their sugarcane. Thus, aside from farm-size, the cane owners' involvement in non-farm activities also explains the variations in management and labour control strategies.

The cane harvest in Sidodadi was organized by the TRI institutions the entrepreneurs, and the cane traders. The mill sub-contracted the cutting of TRIK cane and its transport by truck to KUD Gondanglegi. The mill organized the transport of cane by locomotive on its narrow-gauge railway network, constructed during the colonial period. It employed seasonal

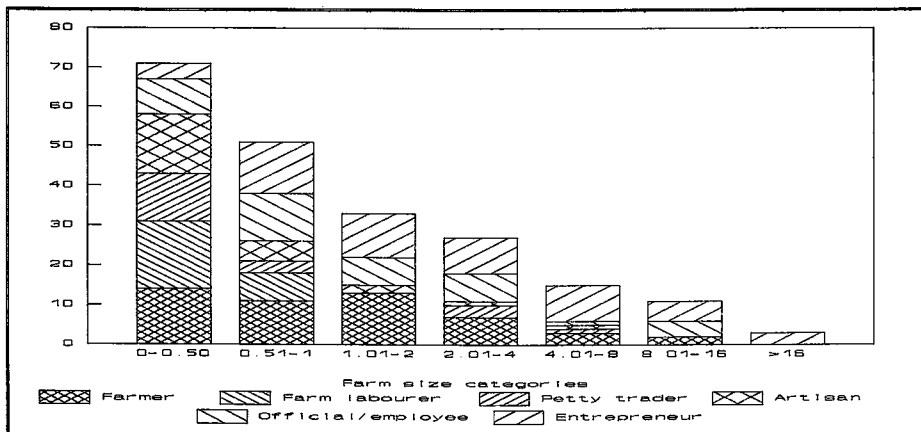
labourers to lay temporary railways tracks into the cane fields.

The cooperative contracted three cane harvest overseers (*mandor tebang*) to organize the cutting for the four TRI groups in Gondanglegi. Additionally the cooperative employed watchmen (*pengawal*) who guarded the cane wagons between the cane fields and the weighing scale. It also contracted owners of draft cattle and ox-carts (*cikar*) to transport the cane from the holdings to the lorry and to pull the loaded cane wagons (*lori*) into the cane fields and back on the permanent railway track.

The patrons and cane traders loaded their cane on their own or their traders' trucks. However, for holdings that could not be reached by truck, the patrons also relied on the TRI institutions to construct railway tracks and to harvest the cane. Finally, the petty cane traders in the village organized their own teams of cane workers from the poor households.

Three quarters of the sugarcane producers also had off-farm and non-farm sources of income. In the regional centre, Krajan and its twin village, a large proportion of the cane producers were involved in the public and private service sectors. In Siwalan and neighbouring villages many of them combined cane farming with agricultural wage labour and petty trade. The general pattern was for cane producers with larger farm holdings to be either only farmers, or to also be civil servants such as officials or teachers, or to have other entrepreneurial activities, such as trade, transport or workshops. Smallholders, in contrast, were agricultural wage-labourers, artisans, and petty traders.

Figure 6.1 Off-farm activities of sugarcane producers per farm-size category in 1991



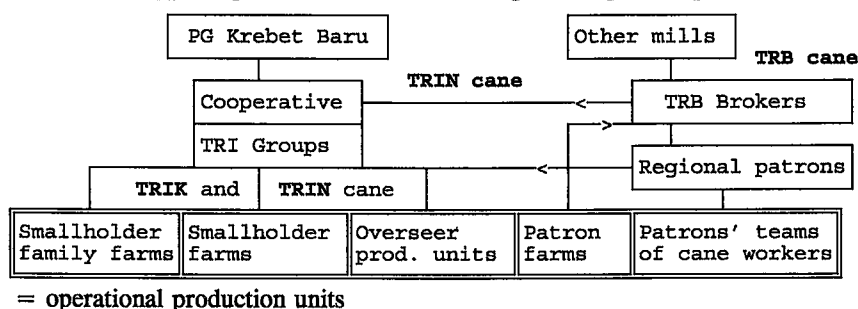
Source: Author's census of the cane producers

In Sidodadi a correlation between education and farm-size was observed, similar to that in Dadapan. The cane producers who also worked as agricultural labourers had the lowest level of education and the smallest holdings. The artisans and petty traders had an above average education but controlled below average holdings. Cane growers who only farmed, had below average educational levels but above average farm holdings. The entrepreneurs and civil servants had the highest level of education and the largest farm holdings.

In summary, five types of production units are linked to two type of linkages. 81% of the cane producers were smallholders, of whom 23% relied only on family labour, and cultivated 41% of the cane in the village. 3% of the cane production units were managed by overseers.

16% of the cane producers were patrons and controlled 54% of the cane area. Both farm-size and engagement in well-paid off-farm activities influenced the organization of the labour process. Relatives and foremen were only responsible for the organization of the labour process; overseers also supervised the technical aspects of it. However, the overseers' responsibilities and the reward systems differed for almost every arrangement. For the cane harvest, the cane patrons and traders engaged their teams of, respectively, permanent and occasional cane workers. The TRI institutions did this for smallholders' cane that had been registered for TRI credit and for milling by PG Kreet Baru. As a consequence of poor services by these TRI institutions, patrons increasingly sold their cane to brokers, and after the debt debacle tried to replace the village head's clients with their candidates as TRI institution leaders.

Figure 6.2 Type of production units and linkages in sugarcane production



6.4 Impact of Cane Production on the Social Relations of Production

In this section the implications of sugarcane production for agriculture and for the socioeconomic relations at the village level will be discussed. After a review of the production technology, land tenure, labour, credit and marketing relations are examined.

Over the past ten years smallholders in Sidodadi have followed the local patrons and shifted from food crops to cane production. Labour intensive wet-rice production was only feasible during the rainy season on holdings with a heavier soil texture and located close to the irrigation channels. Rice producers moreover frequently conflicted about irrigation water. By growing sugarcane, the farmers were able to obtain higher net returns with less labour. They used relatively labour-intensive production techniques in which male labour was more prominent than female labour. As a consequence, opportunities for wage labour for women from the poor households declined.

Ecological conditions in Sidodadi are very favourable for cane production. On the deep sandy soils high cane yield can be obtained through the liberal application of fertilizer and irrigation water. The majority of the cane producers and overseers in the village are keen cane growers, who give each of their plots the particular treatment necessitated by the production system, the soil type and the irrigation potential, as long as working capital is available.

Through the local water-masters the cane producers arrange irrigation for their crops in the command areas. The village government has appointed three water masters (*owo-owo*), who are responsible for water distribution in command areas of respectively 123, 173 and

150 ha.¹⁹

The mill's field staff concentrate their extension activities on crop rotation, fertilizer application, weeding and stripping, and cane cutting. The mill recommends that a plant-cane crop be ratooned only two or three times ratooned and that a rice-maize crop then is grown between the last ratoon crop and the subsequent plant-crop. They recommend a consequent properly timed application of phosphate and potassium fertilizers. Additionally, they recommend that after the last nitrogen dressing, a second weeding be combined with a reshaping of the ridges to prevent lodging. Before the harvest these ridges have to be partly removed in order to harvest the deep rootstocks, with the highest sugar content. This enables the cane cutters to pull the stalks rather than to cut them with a machete, which is commonly done. These are the major extension messages of the mill's field staff, which they disseminate through personal contacts with cane growers and occasionally through TRI group or village meetings.

The cane producers in Sidodadi rejuvenate their cane crops less frequently than the mill recommends. When yields decline, after four to six ratoon crops, the cane producers uproot the crop and plant a subsequent plant-cane crop (*ungaran*). The smallholders usually plant food crops like maize, soya and rice for one season before planting a new cane crop. Cane patrons and poor producers with smaller holdings plant cuttings immediately after the ratoon cane crop is harvested. The latter inter-crop maize with young plant and ratoon cane for subsistence purposes. In 1991 about ten percent of the cane area was plant-cane and the remainder ratoon cane.

The majority of the cane producers treated their cane crop intensively. They used double the mill's recommended amount of nitrogen fertilizer in two or three applications.²⁰ During the dry season they irrigated the crop frequently. Technically skilled cane growers tended their cane crop intensively and carried out all field operations which previously had proved to have a positive impact on cane yields on a specific holding. These included cutting the old roots, transplanting plants to obtain a regular crop with the right plant density, and stripping away dry leaves. The cane producers considered the risks involved as limited because in case of drought they could always irrigate their cane. Regional entrepreneurs and poor smallholders used less intensive production techniques. The former preferred to expand their cane area rather than intensify its production, while the latter lacked the capital to buy the extra fertilizer. The extensification of the production techniques implied a decline in wage labour opportunities for poor women. The women in the wealthier cane producing households did not mind this, because they had began to adapt an urban-middle class life-style.

Cane yields on irrigated land in Sidodadi were among the highest in the Malang sugarcane belt, varying between 90 and 162 tons per ha/year. With intensive cultivation methods, experienced cane producers obtained yields up to 180 kg per *leng* or 162 tons per ha from young ratoon cane crops. For plant-cane and older ratoon crops the yields varied between

¹⁹ Rice is only planted during the rainy season and has to be irrigated through the continuous flow and basin methods. The paddy owners pay 200 kg unhusked rice per hectare for the water. The owners of sugarcane, fruits and vegetables can water their crops during the dry season, and 1991 they paid Rp. 9.000 per hectare for one surface irrigation (*lepan*).

²⁰ The field staff of PG Kribet Baru recommended the use of 800 kg zinc ammoniacal nitrate (21% N), 100-200 kg triple superphosphate (43-49% P) and 200 kg potassium chloride (60% K) per hectare. However, the cane growers demanded 1200 kg Zinc Ammonia through the TRI credit programme and those who could afford to additionally bought a similar amount of urea (42% N).

100 and 140 tons per ha.

In Sidodadi there is an annual competition for the highest yields between the teams of the local patrons and overseers. This contributed to the development of craftsmanship. For the smallholders and the overseers it was part of a strategy to obtain either supervision of this cane or share-tenancy arrangements with the landlords, as will be shown in the next subsection.

In summary it can be said that ecological conditions, in combination with price policies, make sugarcane production in Sidodadi more attractive than food crops. Using capital intensive production techniques and irrigation, high cane yields can be obtained, which contribute to the development of craftsmanship among local patrons, overseers and smallholders. The regional patrons and the smallholder family farms used relatively less intensive production techniques, respectively because of economic considerations (profit maximalization) or shortages of resources.

6.4.1 Smallholders competing for cane land

Having looked at the relationship between the scale of operation and the relations of production, we must now shift our focus to the farm-size distribution and the land tenure relations, also paying attention to the strategies of smallholders and patrons to lease land and the impact of these efforts on land rents.

Table 6.3 Cane cultivated by growers per farm-size category and organization of labour management in 1991

Farm size Categories	Cane Planters		Total cane area		labour control		
	N	%	ha	%	Relative	Foreman	Overseer
0 - 0.50	70	34	16.2	6	2	1	-
0.51 - 1	50	24	29.3	11	-	6	-
1.01 - 2	33	16	34.6	13	1	5	1
2.01 - 4	27	13	52.7	20	1	2	1
4.01 - 8	16	8	61.3	23	-	-	1
8.01 - 16	9	5	50.6	19	1	-	2
16.1 - 60	3	1	20.1	8	1	-	3
TOTAL	208		264.6		6	14	9

Source: Author's census of cane growers

The average farm-size of cane producing families in Sidodadi is 1.30 ha. As in Dadapan, in this village there also was a skewed distribution of farm-holdings in 1991. 58% of the cane producers controlled farms smaller than one hectare, cultivating only 17% of the cane in Sidodadi. On the other hand, 13% of the producers managed farms larger than four ha and controlled 50% of the cane.

The cane producers owned about three quarters of the landholdings they controlled and rented the rest. In 1991 those controlling farm holdings larger than two hectares, still leased the largest part of their area. Madurese smallholder-overseers in Siwalan were particularly active in the land-lease market, in 1991 leasing 38% of the land they planted with cane. Each

year they leased one or more small plots for several seasons in advance paying a fixed casual rent per *leng*. In Krajan the patrons used the same strategy, but within the Javanese kinship groups share-tenancy relationships were more frequently used.

In Sidodadi there were many absentee landowners who lived in the city of Malang. Even before independence, local patrons in Krajan sent their children to secondary schools in Malang city or to Islamic boarding schools in the province. These children often never returned to Krajan, although they inherited land there from their parents. Regional NU leaders and brokers, who owned land in Sidodadi, also moved to the city of Malang for economic or political reasons. These absentee landowners had different strategies with which to manage the land. First, they could lease the land to patrons or relatives in Sidodadi. Second, they could make arrangements with a local overseer, whom they provided with capital to manage the cane land for them. Third, they could make a share-tenancy arrangement with relatives or overseers living in Sidodadi, who themselves provided working capital. The following two cases are illustrative.

Slamet is a Javanese government official whose wife owns a shop in the market in Sidodadi. Slamet and his brothers and sisters have pooled the land (1.6 ha) they inherited from their father. His brothers live in Surabaya and Sumatra and his sisters live in Malang; Slamet is responsible for the cultivation of cane on his family's holdings. Every year another heir gets the net cash income from the land from which Slamet may deduct about 20% for his management effects.

H. Akhmad leased 1.5 ha land from two village officials, from two landowners in Malang and from two neighbours. He rented these six holdings, which vary in size from 100 to 500 *leng*, in different years for periods varying from two to five seasons. He rented one plot of 160 *leng* in 1985 for the period 1987-1993, paying only Rp. 3.000 per *leng*. Another plot of 125 *leng* he rented in 1988 for two seasons (1990-1992), paying Rp. 2000 per *leng*.

Smallholders and overseers increasingly competed with the local patrons for land on the local land tenure market. Until the late 1980s regional brokers and local patrons dominated this market, having their overseers like H. Akhmad manage the cane. Cane overseers and smallholders, however, developed the strategy of renting the smaller holdings for a fixed rent or making share tenancy arrangements. These smallholders had only small amounts of cash with which to compete with entrepreneurs for the smaller cane holdings. Improved access to TRI credit programmes for overseers and smallholders to finance inputs and cultivation expenses strengthened their position, however. As a consequence rents increased from around Rp. 500 per *leng* during the early 1980s to around Rp. 2,500 in the early 1990s. In 1991 skilled smallholders paid rents that varied between Rp. 2000 and Rp. 3000 per *leng*. Experienced overseers and smallholders also offered fifty-fifty share arrangements for the net-cash income, in which they took care of all production expenses. As the first case shows, these arrangements were negotiable and could be lucrative for both the lessor and the lessee, especially when the latter was able to obtain high yields.²¹

²¹ Madurese smallholders paid higher rents than their Javanese colleagues did. They explained this difference in strategy by referring to Madurese personality, entrepreneurship and resilience. These important values they contrasted with Javanese ones of status orientation, officialdom and social harmony. They said

As a consequence of the increased competition, the patrons and brokers became increasingly interested in leasing *tegal* in the South Malang area, where they only paid between Rp. 250 and Rp. 660 per *leng*. Although yields were lower, 50 rather than 100 tons, the returns on invested capital were higher there. However, when land was offered for sale in Sidodadi, local brokers and patrons were interested and, because of their financial position, they could offer the highest prices. Smallholders could only buy small holdings or those owned by relatives.

In 1984 H. Zainal bought five ha infertile, irrigated land in Kepanjen for five million rupiahs. After managing the holding for seven years the yield increased by 100% and in 1991 the value of the land had increased to 25 million rupiahs per hectare. Early in 1991 H. Zainal owned 3.6 ha cane in Sidodadi and just before the cane harvest he bought three additional plots totalling 2.4 ha together with the cane that stood on it, for which he paid about 100 million rupiahs.

Figure 6.2 shows that the entrepreneurs, employees and farmers on the average owned the largest holdings and that the labourers and petty traders owned the smallest ones. The size of the farm holdings followed a similar pattern. The entrepreneurs on the average leased the largest areas, followed by the labourers, farmers, artisans and the petty traders. The latter planted a larger proportion of their farm holdings with sugarcane than the farmers, officials and entrepreneurs did.

Summarizing, the impact of cane production on land tenure relations was a skewed land-distribution. Demographic processes of urbanization and land fragmentation led to relatively high absentee landlordism. Until recently, regional and local entrepreneurs leased absentee lands and the salary lands, but gradually withdrew from leasing *sawah* land. With TRI credit funds available for cultivation, the smallholders could compete with the entrepreneurs for the smaller cane plots, offering higher rents or share-tenancy arrangements. The increased rents negatively affected the returns obtained by the entrepreneurs who then shifted to producing cane in the *tegal* area of South Malang's limestone area, where the rents were still low. When land was offered for sale, however, only the patrons could still afford to buy it. Thus the patrons' withdrawal from the local land tenure market enabled commercially-oriented smallholders to replace them, which resulted in a less skewed farm-size distribution. However, the processes of differentiation in land-distribution continued because only the local entrepreneurs could afford to pay the high prices for *sawah* land.

6.4.2 Emerging labour market in cane production

In section 6.3 it was shown that 18% of the cane producers were smallholders using only family labour, 63% were smallholders using family and hired labour, and the remaining 19% were cane producers who hired teams of cane workers. In this section the labour relations used in the five different type of production units will be analyzed.

Of the 130 smallholders who also used hired labour, 75 households (58%) did so to supplement family labour in carrying out the heavy field operations during the peak labour

that Madurese smallholders took big risks, lived modestly and worked hard to acquire a larger farm. Javanese farmers avoided risk and shared their limited resources with their family members.

periods. The remaining 55 households (42%) like the patrons and overseers depended on wage labour. They did have permanent cane workers, however, these worked individually and not as team.

The arrangements of the smallholders who supplemented family labour with wage labour were similar to those in Dadapan. They only recruited cane workers for heavy physical operations, like ratooning (*memepiras*), cutting old rootstock (*pedhot oyot*) and ridging (*tutup*). The cane growers usually made arrangements with other smallholders or with cane workers who were no longer under contract to their patron. The smallholders paid tariffs and wages slightly above those paid by patrons because those are somewhat higher for casual labour.

Cane producers relying on wage labour used more than one system for labour organization and control. I will illustrate the main systems and their related labour arrangements, using the three cases mentioned in the previous sub section.

Slamet, a civil servant, hires six cousins and three neighbours from Krajan for his field operations. In the afternoon he inspects the progress and quality of the field activities and does some of the lighter work. For the heavy field operations Slamet pays piece-rates (*borongan*) and for the lighter ones daily wages (*harian*). In 1991 he paid respectively Rp. 50, Rp.55 and Rp. 55 per *leng* for ratooning, root trimming and ridging, and for a four-hour working day he paid Rp. 1000 to the men and Rp. 750 to the women. Under the latter arrangement, his eldest cousin supervises the labourers, for which Slamet pays him double the daily wage. In 1991 Slamet's cane was harvested by cane cutters belonging to the cooperative's overseer and of a trader.

H. Akhmad has 26 male and 18 female client cane workers (*kuli langganan*). These come mainly from landless and poor smallholder families living near H. Akhmad's house in Siwalan and from the neighbouring village. For the heavy field activities the men work on a piece-rate (*borongan*) contract. For ratooning, ridging and cane cutting paid respectively Rp. 35, Rp. 40 per *leng* and Rp. 150 per quintal in 1991. For the lighter activities like planting, transplanting and fertilizer he uses daily wage (*harian*) arrangements for some of the men and all of the women. In 1991 he paid the men Rp. 750 and the women Rp. 600 for a four-hour working day. H. Akhmad and his wife join them in the field and supervise the labour process. H. Akhmad recruits two or three cane cutter teams to harvest cane for Wardi, and for his brother who acts as an agent of the Chinese broker, Samsul.

H. Zainal appointed two overseers in Siwalan, who respectively cared for 3.6 ha and 4.6 ha cane in Sidodadi and a neighbouring village. H. Zainal supervised them and two other overseers in the Kepanjen sub-district. The overseers have their permanent cane worker teams (*kuli langganan*) made up of relatives and neighbours. In 1991 H. Zainal paid respectively Rp. 50, Rp. 35, Rp. 50 per *leng*, and Rp 150 per quintal for ratooning, trimming roots, ridging and cane cutting. He had the same arrangements for daily wages that H. Akhmad did.

These case present alternative strategies in organizing the labour process. Smallholders engaged in non-farm activities either delegated the cane production to a local overseer, or they managed it themselves with the help of some permanent cane workers, as was done by Slamet. Slamet negotiated individually with each of his kin-men cane workers and he only

appointed one of them as foreman when the work needed close supervision. The Ranu and H. Akhmad cases in the previous section highlighted two types of overseers: the employee and the patrons' type. Both are responsible for the cane production, but where Ranu separated his own and the patrons cane, H. Akhmad combined them into one production unit. The latter case presents the regional patron type, in which the patron works through a number of overseers or foremen who have the task of supervising for both their teams of permanent cane workers and the crop. In addition the foremen or overseer have to arrange the cutting of the cane and to guard it against damage done by poor households, who often remove the leaves of the cane to feed their cattle or to sell to drying houses.²² However, the entrepreneur maintained direct control over the technical aspects of production and indirect control over the labour process.

These cases further show that smallholders, overseers and patrons used similar strategies to reduce the cost of labour. For ratooning, trimming roots, and ridging they used the piece rate contracts and for less uniform and often lighter operations they paid daily wages. Both the piece rates and the daily wages differed for the two hamlets, while in both women received lower wages than men did. Tariffs also differed between casual and client labourers.

The patrons and overseers worked with permanent teams of cane workers, whom they could easily bind to themselves through advance payments. They paid them 80% of the wages in advance, in exchange for labour security. The labourers accepted a tariff slightly below the 'market' level for the job security, and only accepted work from other cane producers when their work for their patron was done. The teams were mostly composed of several men for the heavy physical field operations and some women who did the lighter work. The patrons and overseers also organized the cane harvest for TRIN and TRB cane with teams composed of client cane workers. They thereby provided them with regular seasonal labour, with peaks during the planting, ridging and cane cutting periods.

The cooperative's harvest overseers bound their cane workers to themselves through a contract for continuity (*kelangsungan kontrak*). They received a contract from the cooperative, with an advance payment of about Rp. 800,000. This money they used to bind two and three-person teams (*rentengs*) to themselves by making advance payments of Rp. 30,000.²³ These cane cutters mainly came from neighbouring villages, because experienced cane cutters in Sidodadi were already clients to the local patrons.

In 1991 the basic tariff was Rp. 120 per quintal, loaded on a lorry in the field. In case the cane had to be loaded on a trailer, or first on an ox-cart and then on a lorry, they received Rp. 125, and Rp. 130 for 100 kg cane. From this tariff the overseer subtracted Rp. 25 per 100 kg cane for a continuity fund, from which the advance payments were made. The balance was paid to the cane cutters at the completion of the harvest. Cane workers who stopped cutting earlier risked losing the balance they still had in the fund, because they had broken the contract. The cooperative charged the cane owners Rp. 160 per 100 kg cane cut in case the cane was loaded on a lorry on the plot. Of this amount, Rp. 15 was paid to the overseer and Rp. 20 to the owners of draft cattle.

The cane entrepreneurs started their harvest activities later than the cooperative and paid

²² Cane traders, and later also KUD Gondanglegi, acted as commissioners for the cane leaves, selling them to drying-places in Pandaan and Bululawang. These paid them Rp. 17,000 per ton, and after drying and grinding, sold them as cattle fodder to Japan.

²³ These were teams of two or three cane cutters who daily cut and loaded one lorry with cane, the load weighing between four and six tons.

higher tariffs than the cooperative's overseers did. The patrons formed their permanent cane workers into four- to six-person teams, paying their cane cutters between Rp. 150 and Rp. 200 per 100 kg, depending the state of the cane. Before the cane workers started on a holding, they received 70 to 90% payment in advance. The tariffs for cutting and loading cane increased during the last months of the crushing season to motivate the tired cane workers to continue working until all the cane was in. Besides the patrons and traders, petty-cane traders also formed their teams from poor relatives and neighbours, whom they paid in advance for each plot.

In summary, it can be said that sugarcane production dominates the local labour "market", particularly in Siwalan. Non-farm employment and migration cause labour shortages in Krajan and thus cane producers have to pay higher wages and tariffs to labourers recruited from Siwalan. Many smallholders in Krajan are involved in non-farm activities and rely on wage labourers, some involving foremen and overseers to supervise the work. Where the smallholders work mainly with free cane workers, the patrons and overseers have their teams of client workers, who are supervised either by themselves or by their caretakers. With piece rate contracts and advance payments the patrons assure themselves of their client-labourers. Daily wages are paid for lighter field operations. The smallholders use the same arrangements but rely more on free casual labourers, whom they pay an extra amount. The TRI overseers use advance payments and a continuity fund to bind cane cutters they recruit from neighbouring villages. The entrepreneurs start the harvest later and pay their teams of client-cane workers higher tariffs. But the cooperative's overseers have to mediate for hardship bonuses between the cane cutters and the cane owners. The patrons paid their cane cutters a higher basic tariff which they increased later in the harvest season to motivate them to finish their heavy work.

6.4.3 Overabundance of credit funds for cane production

We next turn to the distribution of the credit funds through the TRI programme in Sidodadi. Cane production in the Gondanglegi sub-district involves little risk and thus the TRI institutions would like to extend credit to all producers. However, in Sidodadi many cane growers did not want to avail themselves of this opportunity.

In 1991 outgrowers cultivated 4061 ha sugarcane in the sub-district and the cooperative supplied TRI credit funds for 2390 ha, covering only about 59% of the cane. The KUD Gondanglegi obtained the loans for the TRI credit programme from the Cooperative Bank of Indonesia (Bukopin) rather than from the People's Bank of Indonesia (*Bank Rakyat Indonesia*), like all other cooperatives in the Malang district did (KUD Gondanglegi 1992). In chapter nine I will explain the reason for this particular choice.

Although there were sufficient funds, the four TRI groups provided TRI credit for only 72% of the cane produced in Sidodadi. In 1990/1991 cane producers planted 367 ha cane and the TRI groups provided TRI credit funds for 263.8 ha of it. The arable land in Sidodadi was divided into four blocks, two above and two below the main road. The cane owners can only apply for TRI credit through the TRI group in whose block his or her cane is located. This is closely checked by officials of the mill, the cooperative, and the local government, owing to the cooperative's past debt debacle. However, the cane owners in the blocks below the main road used TRI credit for 76 and 82% of the cane they cultivated in 1991. For the cane cultivate in the blocks north of the road the owners used TRI credit for respectively 72 and 62%. The patrons own more cane in the latter blocks and the smallholders in the former.

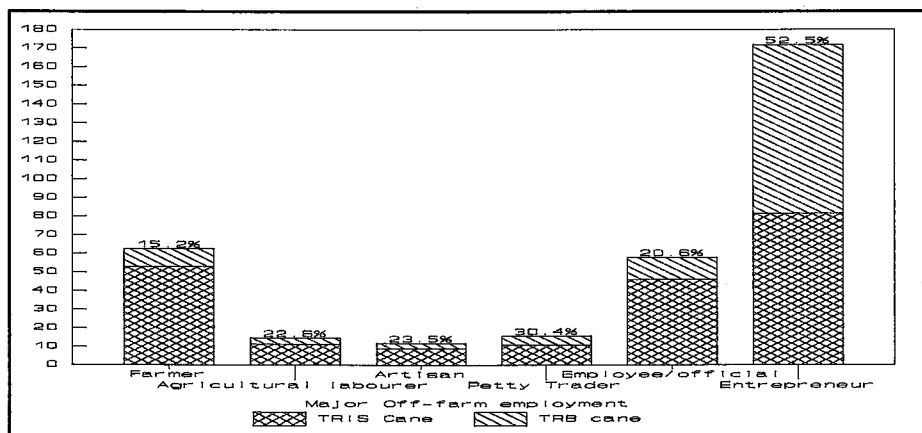
Additionally, from large areas south of the main road cane can only be loaded on lorries.²⁴

The producers received a credit package for TRIS II, which is for the first ratoon cane crop on *sawah*. The TRI farmers received only 1000 kg Zinc Ammonia fertilizer and cultivation expenses, with a value of respectively Rp. 210,000 and Rp. 235,000. per hectare cane. The cooperative also received from Bukopin credit for the harvest, amounting to Rp. 250,000 per hectare (KUD Gondanglegi 1992).

The disbursement of the TRI credit funds during the 1990/1991 season was a problem. Since the cooperative could not independently get a loan from the BRI bank, it had to make new arrangements with a bank that was rarely involved in the TRI programme. Due to administrative regulations the cooperative only distributed the fertilizer in December 1990, too late for the cane producers on *sawah*, whose cane was harvested during the first months of the crushing season. The money for cultivation expenses was paid out in January 1991, when the producers were in the middle of the peak of their field operations.

The smallholders depended on the TRI credit funds. They lacked the working capital to finance the cane cultivation themselves and thus had to depend on subsidized TRI credit. The entrepreneurs had other options. They could use their own capital or take out loans from commercial banks or cane contractors in Sidodadi and Malang. As figure 6.2 shows, it was mainly the entrepreneurs who planted TRB cane, along with some farmers and employees. The smallest proportion of TRB cane was planted by labourers, artisans and petty traders.

Figure 6.3 Area TRIK and TRB cane (ha) per off-farm employment category in 1991



Source: Author's census among cane growers

Trading restrictions and related financial considerations played a central role in the cane growers decision whether to grow TRIK or TRB cane. The entrepreneurs preferred to plant TRB cane over TRI cane because according to their calculations TRB cane gave higher returns. With TRB cane they were free to decide on the harvest time themselves, preferring to harvest it during the last two months of the campaign, when the sugar content was high

²⁴ The mill only transported TRIK and TRIN cane that was harvested through the official TRI institutions. Therefore more cane producers used TRI credit.

and the mills offered extra subsidies for it. Only on plots that could not be reached by trailer, did have to rely on the mill's railway system for the harvest, and consequently they accepted TRI credit funds.²⁵

In summary, we can conclude that the patrons' dislike rather than a shortage of credit was the problem with TRI funds. The TRI institutions only provided credit for 72% of the cane area, and these commercial cane producers financed the production costs using private capital or loans from commercial banks. Because they considered the net cash income on TRIK cane lower than that of TRIN or TRB cane, they and a few smallholders disliked losing control over the marketing of their cane. Smallholders without other alternatives accepted the credit and the associated trading restrictions. Central in this context are the policies of the local TRI institutions for the trade in TRIK cane. In the following section I will focus on these policies and the cane producers' marketing strategies.

6.4.4 Mills Competing for sugarcane

In order to clarify the marketing relations, I shall first present some qualitative information about the cane volumes that were traded through the various channels in 1991. From these I will go on to elaborate on various village level actors' motives and marketing strategies. Although the marketing strategies of actors at the supra-local level will be discussed in part three of this book, to explain the strategies of cane growers I will have to touch upon them here.

Like PG Kebon Agung, PG Kretet Baru officially opened the new crushing season with a *pesta giling* ceremony. This ceremony was attended by the bupati of the Malang district and the Managing Director of PT Rajawali Nusantara. Both paid attention to the marketing policies of the TRI institutions for the forthcoming crushing season.

Table 6.4 Estimated cane volumes per marketing channel in 1991.

	TRIK	TRIN	TRB	Total	%
TRI groups northern blocks	128,949	61,591		190,540	41
TRI groups southern blocks	101,406	62,813		164,219	35
TRB traders northern blocks			73,915	73,915	16
TRB traders southern blocks			42,326	42,326	9
TOTAL	230,355 (49%)	124,404 (26%)	116,241 (25%)	471,000	100

Source: KUD Gondanglegi and for TRB cane estimation author.

In 1991 the KUD Gondanglegi sold 3,231,323 quintal sugarcane, which was only 87% of the amount sold during the 1990 crushing season; 1991 had a long dry monsoon, which caused lower yields. 1,199,753 quintal or 37% of the 1991 sales was TRIN cane. The officials of the cooperative estimated that in 1991 4,061 ha cane was grown in the Gondanglegi sub-district, of which 2,258 ha (56%) was harvested as TRIK cane and 1,132 ha (28%) as TRIN

²⁵ The entrepreneurs therefore preferred to buy land to the north of the main road, which was better accessible by truck than the area south of the road.

cane. The balance of 672 ha (17%) cane was sold as TRB cane, outside the formal marketing channels (KUD Gondanglegi 1992).

Although the four TRI groups in Sidodadi distributed TRI credit funds for 72% of the cane area there, they received a smaller proportion than this as TRIK cane. Only 49% of the cane was sold as TRIK cane and another 26% as TRIN cane. The remaining 25% was sold to cane traders as TRB cane.²⁶

A comparison of the volumes and the trading channels of the four TRI groups showed significant differences. In the previous section it was pointed out that the smallest TRIK cane area was north of the main road, in the blocks administrated by the Sidodadi TRI groups 3 and 4. Of the cane produced in their blocks, 49, 23 and 28% was sold respectively as TRIK, TRIN and TRB cane. In the other two blocks this was 49, 30 and 20%. The differences are smaller than expected, because each TRI group had a regional or local patron, who supplied all their TRIN cane, including TRB cane they bought outside Sidodadi, through one group. In contrast to Dadapan, no TRIK and little TRIN cane was supplied through other TRI groups in Gondanglegi. This had to do with the strict implementation of the credit programme in the Gondanglegi district.

Slamet obtained TRI credit funds for all his 1.6 ha cane. In June 1991 he opposed the cooperative's harvesting one cane plot. He found the mill's sugar content (4.1%) still too low, but as an official he had to give in and his cane was harvested as TRIK cane, with an outgrowers sugar content of 4.34%. A second plot, which the mill wanted to harvest in July, he sold to a local trader (*bakul*) as TRB cane. This man harvested it and sold it to the TRB cane commissioner, Amiruddin. The third plot was harvested as TRIK cane in August but by then the sugar content was already much higher (6.2%).

At the start of the 1991 campaign PG Kreet Baru had problems obtaining sufficient outgrowers cane to keep both refineries in operation.²⁷ Sugarcane growers in the Gondanglegi sub-district, whose cane had to be cut in June 1991, wanted to postpone the harvest until the mill increased the *rendemen*. The mill usually put them under pressure through the cooperative, the TRI group and the village head, to have them accept the harvest schedule as fixed by the mill. However, during the 1991 season the manager of the cooperative backed the outgrowers' request to postpone the harvest. The new village leader and the TRI group leaders of Sidodadi 3 and 4 also passively supported the manager's policy. The other two TRI groups, which were led by clients of the former village leader, backed the mill and put their members under pressure.

In 1991 the cooperative did not charge the sugarcane producer a commission for its services. It had to deduct Rp. 65 per 100 kg TRIK cane from the producers on behalf of other institutions; Rp. 15 per 100 kg cane for the TRI group, Rp. 25 for the village development fund, Rp. 15 as a donation to Islamic social foundations, and Rp. 10 for the

²⁶ The author estimated the volumes of the TRB cane together with the leaders of the TRI groups per plot and per cane owner. This was a complex task because some cane producers sold a proportion of their cane as TRIK cane and the balance as TRB cane.

²⁷ Some sugarcane commissioners from Kepanjen and Gondanglegi bought sugarcane for two sugar refineries in the Kediri district in the same period. When the official policies to prevent this trade proved ineffective, the Kreet Baru mill started to buy sugarcane in the Kediri district as well.

TRI credit security fund.²⁸ For TRIN cane the cooperative did not make these deductions and paid only Rp. 2.5 from its own sugar fee to the TRI groups as a commission.

Because of these differences in deductions and other advantages, the producers liked to supply TRIN cane. They could decide for themselves in which period they wanted to supply the cane, or sign a bulk cane supply contract with the mill. They preferred to harvest their cane between August and October, when the sugar content was high. Further, they could harvest and transport the TRIN cane themselves, saving cutting and transport expenses. Finally the mill gave a slightly higher sugar content for TRIN than it did for TRIK cane.

H. Zainal obtained TRI credit for 3.0 ha and the 1.5 ha cane plots that he bought received this credit as well. However, in 1991 H. Zainal supplied only 10 ton TRIK cane and 1050 ton TRIN cane through his TRI group in Sidodadi. He signed TRIN cane supply contracts with the mill for TRB cane that he bought outside Gondanglegi. In the case of his cane the mill made a distinction between TRIN *dalam* and TRIN *luar*.²⁹ He also supplied TRIK cane from Sidodadi to the mill as TRIN cane, paying Rp. 25,000 per ha cane to the village administration to compensate them for the loss of public and private incomes.

Cane producers who obtained TRI credit were finding ways to supply their cane as TRIN cane. They supplied just sufficient TRIK cane to repay the TRI credit fund and bribed the TRI group chairman to supply the balance as TRIN cane. Another option was to bribe both the TRI group chairman and the village head to be allowed to sell it to traders as TRB cane.

The mill paid incentives to the chairmen of TRI groups and to officials not directly involved in sugarcane marketing. The TRI group received Rp. 2.5 per 100 kg sugarcane supplied through their group. The village head, the village development fund and village civil security board (*hansip*) received respectively Rp. 0.60, Rp. 0.60 and Rp. 0.80 per quintal TRIK and TRIN cane supplied through the official marketing channels. At the sub-district level the mill paid Rp. 2.5 and Rp. 0.50 per quintal sugarcane for backing their interests, respectively to the cooperative, and to the *camat*, the heads of police and army, or *Muspika*,

Because Sidodadi is located in the centre of Malang's sugarcane belt, all leading cane contractors in the district want to be permanently represented there through their overseers, debtors, traders, and brokers, who sell, buy, cultivate and harvest cane for them.

H. Akhmad also works as an agent for Wardi, who provided him with capital for the cultivation expenses, and 60 million rupiahs with which to buy cane for the 1991 campaign. H. Akhmad purchases and harvests cane on a commission fixed per plot. This depends on the work involved for the agent. H. Akhmad's brother, who leads an Islamic

²⁸ The sub-district and district governments decided that the owners of TRIK cane had to make those contributions for TRIK cane. The LKMD of Sidodadi decided that TRIN and TRB cane producers also had to make contributions to the village development fund. These assessment had to be based on the cane's real weight. Alternatively the producers could pay Rp. 25,000 per hectare. The cooperative introduced credit security fund (*simpanan tanggung renteng*) as a mechanism to mobilize social control among the members to have them repay their TRI credits. It retained Rp. 10 per 100 kg cane from all the members, and only paid it out after all the group members had repaid their TRI credit.

²⁹ TRIN *dalam* cane comes from inside the village and TRIN *luar* from outside. The sugar content of the first category usually was a little higher during the 1991 campaign.

boarding school, receives a commission from Samsul of 22% of the profits made on his transactions. When the profits are higher than 10 million rupiahs, the commission is increased to 25%. Both H. Akhmad and his brother own a truck and have teams of cane cutters to organize their patron's harvest. Although both brothers work as agents for a broker, they take the most lucrative transactions for themselves.

Amiruddin, a Javanese retail shop owner in Krajan, cultivates three ha cane in Sidodadi. He also acts as cane commissioner for Hendra, a Chinese broker and transporter in Malang. Hendra acts as the Malang district cane contractor for two sugar mills in the Probolinggo and Situbondo districts. In his shop Amiruddin has an office, where during the campaign the petty cane traders (*tukang beli tebu*) and traders (*bakul*) from neighbouring villages daily come to negotiate purchase transactions.³⁰ The cane Amiruddin buys is loaded on Hendra's trailer-trucks in the late afternoon. In 1992 Hendra opened a site with weighing and reloading facilities for trucks, in which Amiruddin also had a share. On the site they buy cane by weight from patrons, reloading it on 30 ton combination trailers, which travel at night to Probolinggo and Situbondo. Amiruddin also negotiates TRIN cane supply contracts with the PG Krebet Baru or, when Hendra has no contracts he joins Samsul and supplies cane to the PG Kebon Agung.

Thus the brokers' agents, the petty cane traders, and the patron/traders buy TRB cane from the cane producers in Sidodadi. The brokers' agents and the patron/traders are involved in the futures market for sugarcane, and buy cane through *ijon* and *tebasan* arrangements, which is very speculative. They use three contract systems, similar to those used in Dadapan, to buy the cane: the contract system (*sistem kontrak*), the pre-harvest lump sum purchase contract (*tebasan borongan*), and the pre-harvest weight contract (*tebasan kwintalan*). The petty cane traders compete with the brokers' agents and traders during the crushing seasons. They use the lump-sum (*beli borongan*) and the weight contracts (*beli kwintalan*) and have to estimate the potential yields quite accurately. The petty cane traders and traders are experts in estimating these yields, knowing both the plots and the owners. Agents who lack that expertise prefer to use price contracts, because the risk is smaller, as is, of course, the profit margin.

The brokers provide two types of loans to the cane traders (*bakul*) and patrons with whom they have had a longer relationship. They use marketing contracts with advance payments (*sistem kontrak*) in which the broker buys a fixed amount of cane. The period during which the cane has to be supplied is also specified. This is similar to the TRIN cane bulk supply contract with an advance payment (*uang setera gula*). The other type is a loan arrangement (*sistem pakai uang bank*), in which the trader borrows money from a broker to finance a purchase. The trader pays an interest of 2% per month on the loan. The net profit made on these cane transactions is shared equally between the broker and the trader.

In summary, the cane producers in Sidodadi try to find ways to get around the trade and

³⁰ The *tukang beli tebu* lack the capital to buy cane but have their teams of cane cutters. They buy a matured cane crop for a lump-sum (*beli borongan*) and immediately sell it by weight (*jual kintalan*) to a broker or commissioner. With the broker's advance payments they pay the cane owner and the cane cutters. The *bakul* are local patrons who have their own working capital and teams of cutters. To buy more cane through lucrative pre-harvest sales arrangements (*tebasan borongan*), the *bakul* try to obtain loans from their patron brokers, which they repay with cane.

harvest regulations for TRIK cane. Commercial cane patrons and brokers kept their cane outside the TRI credit programme, so that they could supply it to the mill at the end of the crushing season when the sugar content and cane prices are high. Patrons who used TRI credit tried to supply a small amount as TRIK cane, and sell the balance as TRIN or TRB cane. Some smallholders tried to postpone the cane harvest until the sugar content increased, but this was difficult as the supply situation at the mill determined the time of harvest. However, the mill noticed that without backing of the cooperative, TRI group, and village government, it was difficult to persuade cane growers to obey its harvest orders for TRIK cane. The district TRB cane brokers had established their traders' network in Sidodadi through various arrangements with agents, commissioners and traders. Especially local traders and the brokers' agents were active in the speculative futures market, in which they were joined by some petty cane traders during the campaign.

6.5 Conflicts of Interest in Cane Production

During the 1990/1991 season conflicts in cane production in Sidodadi became manifest in the marketing relations rather than in production relations. The landowners, who did not want to cultivate their cane holdings in Sidodadi, could lease them for a fixed rent or through a share-tenancy arrangement. They could also make an overseer responsible for their cultivation, financing this either with private funds or through TRI credit.

The latter was done by Wardi, the Chinese broker who leased Kusnadi's salary land. His case illustrates a specific conflict which can occur when the village head's salary land is leased too far in advance. With the money he obtained from this transaction, Kusnadi settled his TRI credit debts and financed his client's campaign. However, when this clients lost the election, Wardi had no legal grounds on which to recover his rents. In land lease and land sales transactions outside the kin-group, winner and losers are determined by market forces. However, to lease land, poor but experienced cane growers used creative strategies to overcome their lack of capital, such as share-tenancy and overseer contracts.

The smallholders and local overseers had few conflicts in their production units' labour relations, involving their kin and neighbours as casual labourers. The smallholders paid them better than the local patrons did, and the overseers are in an economic position similar to the labourers in their teams.

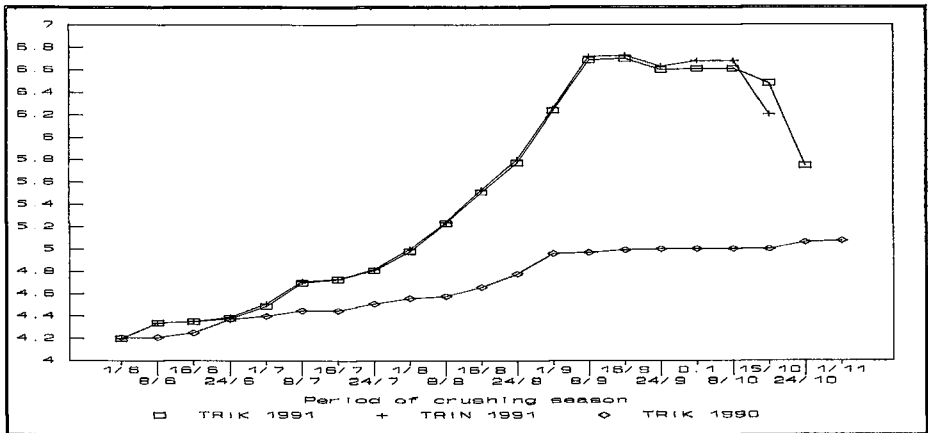
The commercial patrons' tried to keep the wages and tariffs low, except during the harvest period. Their cane workers accepted the lower tariffs and advance payments, both for cultivation and cane cutting, in exchange for job security. The permanent labourers followed the patrons in the labour arrangements; however, as team members they coordinated their actions to obtain better pay for their work. When the national government increased the price of sugar, the patrons and the informal leaders of the teams negotiated an adjustment of the tariffs and the daily wages. Patrons gave in more quickly in to the demands of teams from Krajan than to those from Siwalan, because kinship relations between patrons and labourers were more prominent in Krajan and the general wage and living standards there were higher. In Siwalan patron-client links were stronger; the patrons paying lower wages but being responsible for their clients' social security. The teams also requested higher cutting tariffs during the last month of the harvest season. The patrons accepted these higher tariffs in exchange for the worker's flexibility in terms of extra work and longer hours.

The cooperative's overseers had the same problems their colleagues in Dadapan did. The basic cane cutting tariffs were low and the cane cutters bargained for additional hardship

bonuses for lodged or un-stripped cane. Overseers who made inaccurate estimates of the extra labour and the required compensation involved risked tensions with the cane cutters which could result in slow-down actions and their moving to another employer.

The patrons and overseers used various mechanisms to have their labourers identified with their objectives. They encouraged competition for the quality of the field operations and the highest cane yields between their teams of cane workers. They also gave them loans or advance payments. The entrepreneurs made presents to their permanent labourers at the end of the crushing season and after Ramadan. When patrons and their labourers lived in the same neighbourhood, they participated in the same R.T. and *tahlil* gatherings there. Many patrons were hajji and had leading roles in these prayer and discussion groups, where actual socioeconomic issues, often related to cane farming were discussed. During these gatherings the patrons tried to influence the discussions about mutual obligation between the patrons and the cane workers.

Figure 6.4 Outgrowers' sugar content curve for TRIK and TRIN cane in Sidodadi during the 1990 and 1991 crushing seasons (%)



the poor (*zakat*).³¹ He pointed out that particularly the most acquisitive hajji's were the object of these actions.

The conflicts in the credit-marketing relations were concentrated in the area of price and marketing policies, which were negotiated between the mill and the TRI institutions. In the cane producers opinion these policies were no incentive for them to supply their cane to the mill through the TRI groups and cooperative. First, the commercial cane producers disliked the mill's system of fixing the sugar content. PG Kribet Baru mill usually started its crushing season early in June and continued until late October or early November. Every fifteen days the mill fixed an average sugar content for all outgrowers in homogenous cane production areas. For the first fifteen days of the crushing season the mill and cooperatives negotiated a minimal sugar content, 7% in 1991, which was fixed by the mill's laboratory for the different production areas in the mill's procurement area. The sugar content of cane usually increased during dry weather and decreased during rainy weather; the highest sugar content being reached around September. In September 1991 the cane's sugar content, and therefore the cane price, were almost 100% higher than they had been in early June (see figure 6.4).³² In addition, the TRI institutions in the Gondanglegi sub-district charged levies and commissions amounting to Rp. 80 per 100 kilogram TRI cane. Earlier I explained that the patrons had lower harvest and transport costs than the smallholders did, whose cane was harvested by TRI institutions. Thus, large differences in the sugar content and the extra expenses involved in TRI cane, made it less attractive for the cane producers to rely on the mill's harvesting schedule and on the TRI institutions for marketing.

PG Kribet Baru relied on the leaders of the cooperative and the TRI group to present the contractual obligations for TRIK cane to cane producers. The mill and the cooperative relied on the village head and the TRI group leaders to impose the mill's harvest schedule on the cane producers. Due to conflicts in the KUD Gondanglegi, however, the village head and two TRI group leaders refused to support the mill's field staff. Here I will briefly discuss the background of this conflict in the cooperative, which I will analyze more closely in chapter ten.

Early in 1991 the committee members and the manager of the KUD Gondanglegi clashed about the structure and responsibilities of the cooperative. The manager claimed the responsibility for the cooperative's financial administration. He imposed strict regulations for the financial and credit procedures, since the considerable individual freedom of the staff and committee members had contributed to the debt debacle. Later the manager also abolished other privileges of the cooperative's officials and the local government. While negotiating the 1991 milling contract, the cooperative's manager demanded a price for TRIK cane similar to that offered by non-Malang mills for TRB cane. This shocked the mill and the government officials, who formed a coalition with the cooperative's committee members with the

³¹ Under the Islamic *zakat* rules, a wealthy person has the obligation to distribute a share his profits to the poor or to Islamic institutions that care for the poor and disabled. In the Gondanglegi sub-district, the cooperative deducted Rp. 3 per quintal TRIK cane for an Islamic centre for the disabled and for the *Madrasah* or Islamic schools in the sub-district. One Islamic TRB commissioner made a donation of about 2% of his profits on cane production and trade in a particular village to the local Islamic leaders (*kyai* and *ulama*) for their social and religious activities.

³² The cane price is calculated by multiplying the outgrowers' share of the sugar with the sugar price issued by the government, Rp. 708 per kg in 1991. Added to the sugar share is the outgrowers share of the molasses, but in this calculation, the value of molasses is not considered.

objective of forcing the manager to resign. The committee members took the responsibility for the milling and the cane supply contract, and PG Kreet Baru provided them with a loan and office space. The TRI institutions and the coalition behind the manager lobbied for support of their position at the village level, causing the conflict to play there as well.

Two TRI groups headed by Kusnadi's clients choose the side of the committee members, and the two others backed the manager. H. Misdi, the manager's father who lived in Sidodadi, coordinated a coalition of *ulamas* and regional cane patrons. He approached Sidodadi's village head, the TRI group chairmen, and local patrons for supporting his coalition's arguments. The village head and two TRI group chairmen had gained their position with the support of H. Misdi and local patrons. When the coalition of mill and government officials and committee members blocked the manager, the coalition behind the manager blocked the mill's cane harvest, leading the smallholders to dare to oppose the cutting orders by the mill's field workers.

In the previous sub-section I discussed the strategies for getting around the trading restrictions used by the cane producers who used TRI credit. These were similar to those used in Dadapan. Local cane growers were annoyed with the mill when it bought cane in Kediri, for which it paid Rp. 4,200 per quintal while refusing to pay more than Rp. 3,200 for local cane.

The traders' strategies of linking money-lending to the future cane market also led to critique by Islamic leaders and entrepreneurs in Sidodadi who knew that it was mainly Chinese brokers (*cukongs*) who were behind this trade as money lenders. They condemned *ijon* as usury and argued that moneylenders should provide loans to the cane producers on a profit sharing basis. Such arrangements they judged to be in accordance with Islamic principles.

6.6 Conclusions

Outgrowing has always been the dominant form of cane farming in Sidodadi. Patrons introduced the production of brown sugar as well as cuttings (*bibit*) for sale to the sugar mills. Between 1925 and 1941 the colonial government forbade the mills to buy outgrowers' cane, and as a consequence the organization of brown and crystal sugar production diverged. After 1949, however, the patrons prevented the reintroduction of mill managed sugarcane production, because this conflicted with the patrons' interests. The patrons gradually shifted from producing brown sugar to selling their cane to the mill, at the same time expanding their cane area. More recently smallholders followed their example and changed from food crops to sugarcane.

Ecological conditions in combination with price policies made this shift attractive. High cane yields were obtained using capital intensive production techniques and irrigation, which in turn contributed to the development of technical expertise among local patrons, overseers and smallholders. Regional patrons and smallholder family farms used less intensive production respectively out of economic considerations (profit maximalization) or shortages of resources.

In 1991 the village economy was dominated by sugarcane, farmers cultivated it on 81% of the arable land. It was also a major source of off-farm employment together with trade, artisan, workshops and transport. In contrast with Dadapan, circular and permanent out-migration are prominent in Sidodadi. The city of Malang is a favoured destination, also for wealthy entrepreneurs and regional leaders, leading to considerable absentee landlordism.

Commercial cane production has contributed to a skewing of the land-distribution in Sidodadi. Regional and local farmers' leaders, who had been involved in the outgrowers organization and sugar (cane) trade since the early days, had acquired large farms. Together with Chinese brokers and local patrons they dominated the land lease market. However, since smallholders have shifted to cane production and have found ways to solve their capital problems through TRI credit, management, and share-tenancy contracts, they have been able to successfully compete with the entrepreneurs. The increased rents negatively affected the entrepreneurs' returns, leading them to expand their cane production in the *tegal* area of South Malang's limestone area. These lease strategies have reduced the inequality in the farm-size distribution, although the dominant position of local entrepreneurs on the land market increased differences in landownership.

Five types of production units were distinguished in Sidodadi: the smallholders family farm, the smallholders farm, the overseers production unit, the patrons farm and the regional patrons farm. 18% of the cane production units relied only on family labour, 63% on both family and casual labour. The remaining 19% of the production units used teams of permanent cane workers. These latter production units are managed by overseers, local, and regional patrons. However, when these patrons and smallholders are engaged in well paid off-farm activities, they employ foremen and overseers. The patrons, overseers and (petty) cane traders organize the harvest for TRIN and TRB cane patrons, and the TRI institutions do so for smallholders' TRIK cane. The cooperative's overseers also cut the patrons' cane in the isolated area, that trucks could not enter.

The smallholders and overseers mainly work with relatives and neighbours who are in similar economic positions. This contrasts with patrons, who hire teams of landless labourers. The former use casual labour arrangements and adjust their tariffs to conditions on the local labour market. The latter bind their cane workers through piece-rate contracts with advance payments and pay lower tariffs in exchange for a kind of job security and for a guaranteed participation in the cane harvest, where patrons pay higher tariffs than the TRI institutions do. The cooperative's overseers use advance payments and a continuity fund to bind their cane workers who mainly come from neighbouring villages. In 1991 negotiation for hardship bonuses caused conflicts between overseers and cutters, when the latter considered themselves to be inadequately compensated. The relationship between the patron and his team of permanent cane workers is multi-stranded. By increasing payments during peak labour periods and by giving presents, the patrons attempt to keep their workers' allegiance and prevent protest actions or being cheated.

The reorganization of the TRI institutions in the aftermath of the debt debacle improved the TRI credit services. However, the associated marketing restrictions made commercial patrons indifferent to these funds. The TRI institutions provided credit for only 72% of the cane area and the patrons and some smallholders financed the other 28% through private means or with loans from commercial banks. The smallholders especially disliked losing control over the marketing of their cane, because they considered the income derived from TRIK cane to be lower than that from TRIN or TRB cane. Smallholders without another alternative were forced to accept TRI credit and the associated trading restrictions.

Smallholders wanting to receive better prices for their cane had to find ways to get around the mill's harvest schedule and to influence the classification of their cane by the TRI group chairmen. The patrons and brokers, who wanted to sell their cane when the sugar content was high, kept it outside the TRI credit programme. They sold it in September or October to PG Krebet Baru as TRIN cane or to other mills as TRB cane.

The smallholders depended on the TRI credit and thus had to follow the mill's harvest

schedule. The mill, however, needed the backing of the cooperative, the village leader and the TRI group leaders to impose their harvest schedule. They even bribed the TRI group leaders and the village head to allow them to get around the trade regulations.

The district TRB cane brokers had established their traders' network in Sidodadi through various arrangements with agents, commissioners and traders. Especially local traders and the brokers' agents were active in the speculative cane futures market. During the crushing season they were joined by petty cane traders. The brokers' money lending activities in relation to the cane futures market has led to sharp criticism by Islamic leaders and entrepreneurs.

Tensions within the cooperative, between two coalitions of government officials and some Islamic leaders and cane entrepreneurs, created political conditions under which TRIK cane producers could oppose the mill's plans for the cane harvest. In Sidodadi the *ulamas* and the government officials often took opposite positions in regard to problems in the production and marketing of sugarcane. The former village head supported the policies of the TRI institutions and made use of the opportunities these gave him and his clique to start their own projects. For these projects they manipulated the TRI credit programme and cooperated with Chinese brokers. One *ulama* was critical of greedy hajji patrons who ignore their Islamic and social obligations as patrons. All *ulamas* except one criticized the manipulation of the TRI credit and marketing programme by government officials and brokers, the government's levies and the manipulations of the sugar content by the mill officials. The new village head was in a quandary about his position. On the one hand he had been voted into office because as TRI group chairman he had broken with the tradition of manipulation and poor services to the cane growers. On the other hand, he was supposed to follow the policies of the government officials at the supra-local level, including the management of the mill.

The *ulamas'* and patrons' teachings and public discussions played an important role in reframing the solidarity and morality in the social relations of cane production. In land and labour relations the market caused a decline of social security arrangements through patron-client and kinship relations. For the credit and marketing relations the *ulamas* and patrons supported a more profound role for markets, to reduce parasitic activities of government officials that had a negative impact of the outgrowers' share of the cane's added value. But to protect the positions of the weakest actors in these market structures, not only proper public services and honest information has to be provided to them. The patrons should use Islamic institutions for wealth redistribution to the poor. The brokers should involve themselves into risk and profit sharing arrangements, rather than in highly speculative usury and futures markets.

7 PAKONG: A VILLAGE IN SOUTH MALANG'S LIMESTONE AREA

Pakong in Bantur sub-district is located about 40 km south of the city of Malang in PG Kregbet Baru's procurement area. The village lies at an elevation of 400 meters at the boundary between the Lesti-Brantas watershed which drains into the Straight of Madura, and the much smaller Bantur river system, draining south into the Indian Ocean. The agro-ecological conditions of the limestone area limit the potential for agricultural development. The indigenous population knew this and the area remained "waste" land until 1889 when the colonial government distributed it as long-term lease holdings to foreign entrepreneurs to develop coffee and rubber plantations on.

During the struggle for independence, these estates were destroyed and occupied mainly by Madurese squatters. Various local level coalitions and strategic groups at the supra-local level struggled for control of the estate holdings. During the 1960s the village elites, who gained control over large farm holdings, introduced sugarcane production and brown-sugar processing there. Later, when the infra-structure improved, they sold cane to the sugar mills. Currently ratoon sugarcane is the dominant cash crop in Pakong and has replaced dry-land food crops. A limited number of patrons have gained a dominant position in the cultivation and trade of sugarcane and in the outgrowers' organization at the village level. Also, many smallholders have shifted from subsistence food crop production to cane production. In this chapter the ecological and sociopolitical environment, the organization and the implication of sugarcane production in Pakong are examined.

7.1 Cane Production on former Rubber Estates

Agro-ecological conditions in Pakong are less favourable than those in the other two villages. The dominant soil texture is ancient volcanic debris torrent material that covers older sedimentary limestone. Hilly terrain with deep ridges and broad crests is the dominant landform. The remains of the thick layer of volcanic debris can be seen on the plateaus of the crests between the rivers. Inadequate soil conservation has led to shallow soils and to the emergence of the limestone materials, especially on the hilly tracks along the ridges. The village is intersected by three southward flowing rivers, which are an obstacle to communication between the different hamlets making up the village, especially during the rainy season.

Rainfall in Pakong is erratic. The climate is warm and humid, with temperatures ranging from 22 to 28 degrees. The average rainfall is about 2000 mm with four wet months during which more than 200 mm rain falls per month and four months with less than 100 mm each.¹ The villagers claim that they have to reckon with an extreme dry year once every

¹ The climate is classified as D3/low land in Oldemans's (1975) definition of agro-climatic zones.

eight years, when even trees die of drought. In the dry years the ground water level decreases and water supply becomes a major problem for people, animals and plants. There are also extremely wet years, when erosion becomes a big problem for arable land where no steps are taken against erosion, as well as for the roads and bridges (Kepas 1985:17).

In 1991 7,136 inhabitants lived in Pakong in 1540 households, giving a population density of about 582 inhabitants per square kilometre. Every farming household had access to an average of about 0.65 ha land; food growers controlling at an average of 0.53 ha land while cane producers controlled an average of 1.41 ha.² Among the latter were local patrons who controlled farms of 25 ha or more in Pakong. The farm-size distribution will be discussed in the next section.

Pakong is a multi-ethnic community the majority of which is Madurese; Madurese was spoken in about 80% of the households. The other 20% were Javanese households who mainly lived in the southern hamlet, Waluh. The dominant position of the Madurese was also reflected in the typical Madurese diffuse settlement pattern; clusters of dwellings built in a row (*tanean lanjang*), scattered over the village area (Apriono 1992). These dwellings are built close to and even on privately owned *tegal* holdings, and are inhabited by mainly consanguineously related nuclear families. Recently, however, the village government issued a regulation that permanent houses could only be constructed along the access roads. The Javanese households mainly lived in the southern-most hamlet community, where the *sawah* holdings are concentrated.

Pakong was settled in three successive waves that occurred during the 1830s, the 1890s and the 1940s. Around 1830 the first settlers moved into Pakong from the limestone areas in the Ponorogo and Bagelen districts in East and Central Java. These settlers selected the areas with deeper soils and potentials for irrigated and rain-fed rice agriculture in the hamlets Bendo and Waluh. In 1870 the colonial government changed the status of the remaining "waste" land in South Malang to state-owned land and in 1883 issued 75-year lease contracts for it. The estate companies *Cultuurmaatschappij Bantoor* and *Cultuurmaatschappij Pringgodani*, with central offices in Amsterdam, obtained the leaseholds for the area in and around Pakong. CM Bantoor controlled the leaseholds Djenggolo and Balarjosari, covering respectively 535 and 490 ha. CM Pringgodani gained control over the leaseholds Pringgodani and Ngastino/Poerboyo, respectively 508 and 307 ha (HCHONI, various annual reports).

Around 1890 many estate workers settled in Pakong, mostly Madurese youngsters who came to work on the foreign owned coffee estates. The settler families first built their dwellings on the estate holding, but later tried to settle as independent farmers along the estate's boundary. These estates' direct and indirect linkages also attracted local brokers, who supplied equipment, inputs and labourers to the estate, and consumer's goods to the labourers.

The estates in the Bantur sub-district first invested in Robusta coffee cultivation, but because of erratic rainfall and a lack of irrigation the sub-district proved to be too dry for coffee production. Additionally coffee blight also caused a dip in the production of coffee during the 1880s, which was overcome in the 1890s by a shift in species. All these factors caused many planters to turn to rubber (HCHONI 1890-1940; Furnivall 1939:171-207).

The economic crisis of the 1920s led to concentrations in the rubber sector. CM Bantur sold their rubber estate Balarjosari to the trading company San Liem Kongsie in Surabaya. This Chinese trader later sold it to a local subsidiary of the Biting Rubber Estate Ltd. in

² About 16% of the households in Pakong were landless in 1991.

London. The owners of CM Pringgodani sold one estate to a subsidiary of the Anglo-Java Rubber Co. Ltd. in London. These estates and the Djenggolo coffee plantation were all managed by N.V. Handelsmaatschappij J.A. Wattie & Co. This company employed Dutch and Chinese managers and had its central offices at the Manduroto estate in the neighbouring village Sempal, in the Pagak sub-district (HCHONI 1890-1940).

Before 1905 only the Javanese in Pakong were allowed to vote in the election of the village head. After 1905 the Madurese estate workers were allowed to vote as well, and a Madurese was chosen as village head. The planters and managers cooperated intensively with the local government at the sub-district and village levels in recruiting labourers and mediating in the land issues. Later local brokers also got involved as labour brokers and suppliers of consumer goods. In 1942 Ramli, a rich Madurese farmer, money lender and labour broker, was elected village head. Ramli owned a large farm holding and a large herd of cattle and fighting cocks, which he had placed with poor Madurese villagers under share tenancy arrangements.

During the Second World War, the Japanese first tried to manage the coffee and rubber estates in the Bantur sub-district. Later they forced most of the estate workers to move to the mountain resort Batu and instructed the remaining ones to cultivate food crops. Many of the Madurese workers escaped from the estates and returned to Madura.

During the struggle for independence, the Indonesian people's army escaped into the South Malang area after the first Dutch military action and established a basis in Pakong. As part of their scorched earth strategy, the independence fighters together with the village head, organized the destruction of the rubber estates. Villagers were encouraged to cut down rubber trees and were promised the usufruct rights to the rubber area they cleared for food crop production. Ramli had a central voice in the distribution of the usufruct rights to these former estate plots. He actively recruited Madurese client farmers (*anak buah*) from his home village on Madura. Together with five other local leaders he placed his squatters on the coffee estate in a neighbouring village. Ramli gained control over a large area of the rubber estate in Pakong; he paid his clients for clearing the land and provided them with loans for food crop cultivation. In this way he claimed ownership of the holdings and made share tenants of these clients. In addition he converted a large area into salary lands.³

During the 1950s the influence of the local government in the estate areas of South Malang declined. Ramli became involved in illegal activities which undermined his authority as village head. He organized cock-fighting⁴ and other popular forms of entertainment, the local religious leaders lacking the influence to prevent this. The gambling circuit became increasingly linked to political factions and criminal gangs in the region, frustrated gamblers forming gangs that robbed wealthier households in the villages.

During the same period issues of land ownership emerged between various factions. The radical parties clamoured for the implementation of an official land reform programme and tried to establish links with relatives of the local elites who supported their policy. The local elites, who had distributed the land and obtained control over larger holdings, opposed any

³ Ramli appropriated a small coconut estate from the combine of a foreign estate manager. He and other village elites also used share-tenancy contracts for rearing their cattle, in which the tenant received every second or third calf.

⁴ Ramli was a fanatic organizer and attender of cock fights in the South Malang area, his tenants taking care of his cocks on a share basis. He became involved in money lending and receiving stolen goods from indebted gamblers.

redistribution. They wanted a legalization of the actual situation. Some local Islamic leaders also founded a gang which strongly opposed the organizations affiliated with the communist party and sympathized with Islamic movements in other provinces that wanted to establish an Islamic state. The military authorities wanted the marginal estate holdings in the Bantur sub-district for training purposes. The colonial lease contracts expired between 1961 and 1965 and the military wanted to obtain the new contract. The various factions and gangs tried to exploit the tensions in the Pakong community for their own specific objectives.⁵

Late in 1964 the police started an action against the gangs and sent in undercover agents to identify the leaders and to investigate the relation between political activism, theft, gambling and the receiving of stolen goods. As reported in the daily newspaper Jawa Pos of 17 February 1965 the military started the Trisila operations and arrested 28 gang leaders.⁶ The military treated these gang leaders as criminals and many of them were executed.⁷ Ramli, his son, and two other villagers were also prosecuted as organizers of illegal gambling and receivers of stolen goods; early 1965 the army executed them and appointed a military care-taker as village head in 1966. Later in 1965 the leaders of the organizations affiliated with the communist party were also arrested and disappeared.

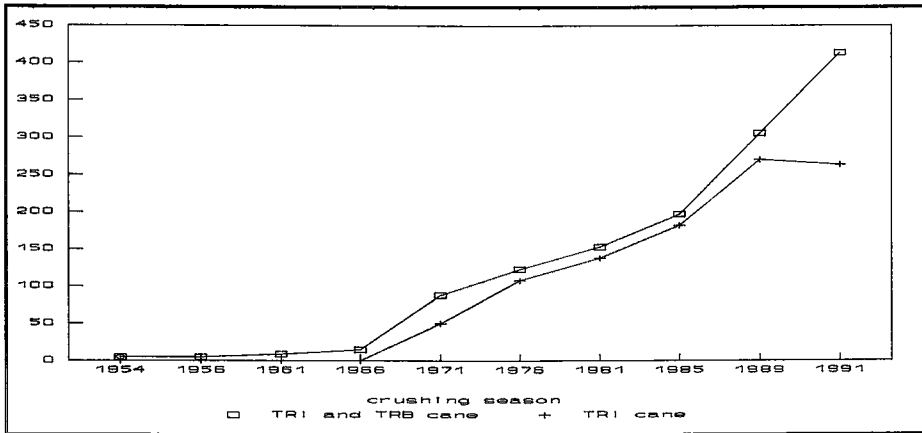
The navy obtained the long-term lease contract for the estate holdings in the Bantur sub-district. However, it had to compromise with the villagers, who claimed the usufruct rights to the holdings they cultivated on the estate lands. The commanders of the training centre first tried to expel the farmers from the estates, but later compensated them for the cleared area that the navy needed for training purposes. The farmers could continue cultivating food crops on the remaining areas, but not perennial crops. In 1978 a navy commander tried to lease land cultivated by farmers to PG Kreet Baru, but the farmers protested and their representative successfully defended their case in Jakarta.

Local patrons introduced sugarcane production to Pakong during the late 1960s. Ramli and four other local farmers bought brown sugar mills from entrepreneurs in Gondanglegi, who then started to sell their cane to PG Kreet Baru. The condition of the roads and bridges in the Bantur sub-district hindered the transport of cane, causing the patrons to process their sugarcane into brown sugar (*gula mangkok*) which they sold to brokers in Gondanglegi. During the early 1970s Ramli's son-in-law, Mustofa, who managed the family farm, became commissioner, first of KPTR Kepanjen and later also of Petermas. Mustofa was successful both as a cane grower and a trader, he also approached other patrons to convince them to sell their cane to PG Kreet Baru. He formed the first TRI groups in Pakong and stimulated two patrons, Suwarno and a hajji, to do this as well. These patrons gradually increased the cane area and smallholders also shifted to cane, as is shown in Figure 7.1. However, in 1982 erratic rainfall caused a crop failure and there were food shortages in Pakong. The village community was confronted with famine and the local government tempered a further shift from food crops to cane production.

⁵ Some informants claimed that factions within the police and military organized these gangs and supplied them with weapons to create rural unrest and thus provoke military actions.

⁶ Trisila was a military operation initiated early in 1965 to restore the state monopoly on violence in the South Malang area.

⁷ Some local leaders expressed the opinion that the radical army faction initially cooperated with the regional communist leaders during the Trisila operation. They saw this as an attempt to eliminate local opposition to the Land Reform policy.

Figure 7.1 Sugarcane area (ha) cultivated with five-year intervals between 1954 and 1992

Source: Field staff PG Kreet Baru and village government

In 1978 PG Kreet Baru, with the help of the village head, rented about 40 ha *tegal* in the hamlet Rejoso to cultivate two cane crops in there. After that period the owners of about 10 hectares continued with cane production themselves. The mill assisted two patrons and a smallholder in renting the remaining 30 ha of cane holdings, in which the landowners had not yet shown any interest.

In 1991 the last two brown sugar mills in Pakong closed. In the past, eight local patrons had operated such mills, but had gradually shifted to selling their cane to PG Kreet Baru. One local patron, whose extended family cultivated 12 ha, closed the brown-sugar mill in 1991, after he was allowed to form a TRI group. The other mill was owned by a local brown-sugar trader, who processed cane he bought from his relatives. Daily they processed between 150 and 300 kg brown sugar which the trader sold on the regional markets. Due to storage problems and a decline in both demand and prices for brown sugar, the trader closed his mill after the 1990 season.

In the Bantur sub-district the local government amalgamated the outgrowers organization into the government controlled KUD. In 1976 the sub-district government had founded BUUD Bantur. Two years later the local government engineered the amalgamation of the existing two outgrowers' organizations with BUUD Bantur into the KUD Satya Dharma. Hajji Mustofa, from 1978 until his death in 1982, was the vice-chairman of this KUD and obtained TRI credit for 114.5 ha cane during the 1982/1983 season. Between 1984 and 1991 the cooperative excluded five Pakong TRI groups from the TRI credit program. These groups had failed to repay the TRI credit they obtained for cane production and therefore KUD Bantur refused to give them new credit. Four of these groups were chaired by Ramli's grand children, and the fifth by the Golkar commissioner in Pakong.⁸ The former village head and

⁸ When H. Mustofa died in 1982, he controlled about 120 ha cane in Pakong and surrounding villages. After his death his wife and two sons tried to continue the cane enterprise, in which they were less than successful. They invested capital in other private projects (i.e. a fishing vessel and education) and later failed to repay the TRI loans. A local Golkar commissioner invested the TRI funds in a weir, which collapsed

his sister, hajji Mustofa's widow, had to lease and sell land to settle their TRI credit debts with the cooperative.

In summary, sugarcane production is relatively new to Pakong, having been introduced during the late 1960s by the owners of larger holdings. Squatters and the destruction of the estate resulted in a very skewed distribution over the former estate land, which contributed to political instability in the region. However, the elite family succeeded in maintaining its control over a large area and played a leading role in establishing the linkages for outgrowers sugar cane production at the supra-local level. The family controlled the largest cane area, but its enterprise disintegrated after the death of the entrepreneur. The family tried to maintain their position in the sugarcane sector through nepotism, but the cooperative's strict policy towards TRI group leaders who failed to repay their debts forced the family to settle their TRI credit debts, for which they had to sell land. Other patrons took over the opportunities in cane cultivation and trade, which the village head's family failed to continue.

7.2 Current Socioeconomic Conditions

Pakong, which is quite isolated, can be reached from the north and the south by a dirt road. The three southward flowing rivers hinder movement between its hamlets, that are each located on different crests. During the 1980s the main north-south road was improved and bridges were constructed. This road has had a positive impact on the marketing of agricultural products such as sugarcane, maize and cassava. In 1991 the village could be reached daily by motor taxis (*ojek*) and on market days it was serviced by vans (*colt*).

Tegal was the dominant land type in Pakong. The village area covers about 1000 ha arable land, of which 750 ha is dry-land or *tegal*, 150 ha home yards (*pekarangan*), 50 ha agroforestry (*kebun*), 50 ha rain-fed *sawah*, and 8 ha irrigated *sawah*. The distinction between *tegal*, *pekarangan* and *kebun* is a problematic one because on all three multi-storey cropping is practised, although with different combinations and plant densities.⁹

During the 1980s sugarcane became the dominant cash crop. Although the yields are 50 to 60% lower than they are on *sawah*, with low inputs it gave attractive returns at a relative low risk. The initial capital costs of plant cane (*ungaran*) and the soil requirements (deep soil texture) resulted in the predomination of rich farmers in cane cultivation.

Food crop production is still the dominant agricultural activity in Pakong. In 1991, of the 900 ha dry-land (*tegal* and *pekarangan*), about 350 ha was planted with cane and the remaining 550 ha with food crops. The rich farmers also plant maize and cassava as cash crops whereas poor farmers cultivate it as a subsistence crop. All farmers practice various forms of inter and relay cropping. On infertile, shallow soils relay cropping of maize, beans and cassava is dominant, while on fertile, deep soils dry rice is often inter-cropped with maize and relay-cropped with cassava. Farmers planted two rice crops a year on 8 ha irrigated *sawah* land and the combination of one rice and one maize crop on rain-fed *sawah*.

shortly after construction.

⁹ A *kebun* is a plot on which perennials, such as coconuts, kapok, coffee, teak and citrus are the dominant crop. On such a plot food crops are planted during the rainy season. Local farmers understood *pekarangan* to be the house-plot. Here, aside from various perennials, rice maize and cassava are grown for subsistence. On *tegal* annual food crops or sugarcane are planted, but often perennials are planted along it as well. The dominant crops in these multi-cropping systems, then, determined these local land-use categories.

Several agricultural development programmes, such as the Bimas credit program for rice and maize, were implemented in the village. Since 1983, however, no Bimas credit funds have been granted as ten paddy growers are still indebted for about Rp. 2 million to the KUD Bantur for credit they received in 1982/1983. The forestry department twice implemented agro-forestry projects in Pakong. The first project promoted the cultivation of Acacia trees and the second Caliantra. In 1988 the extension centre of the Ministry of Agriculture introduced a hybrid maize variety along with a credit package. The farmers disliked the maize variety because its growing period was too long and the post-harvest losses too high.

The majority of the households in Pakong is employed in agriculture, either self-employed or as agricultural labourer, or a combination of both. Non-farm activities are limited to making bricks and tiles, the production of aluminum kitchen utilities, and burning lime. About 40 persons, 1% of the local labour force, are employed in local cottage industries and a similar number in the service sector. Eight sugarcane patrons, who also trade in agricultural products, acquired one (5) or two trucks (3), which they used for five months a year to transport sugarcane. The other months they were used for trade or contracted to traders in Surabaya or other towns in East Java.

Commuting, circular and international migration are important economic strategies for the households in Pakong. Spaan (1995) shows that respectively 17, 21 and 16% of the households in Pakong had a commuter, circulator or international migrant among its members. 10% of the households even combined two or three types. Spaan concludes that the presence of local employment brokers stimulated this migration¹⁰ and that rich households could afford the more costly, international migration, which was also the more remunerative. Spaan also links migration strategies to stage of the households life-cycle and concludes that extended families tend to have more productive adults and control larger landholdings. They can therefore better finance the migration and replace the migrants labour from within the household.

Returning migrants were quite successful in Pakong. Hajji Hasan, who together with his wife worked for six years in Saudi Arabia, bought about four hectares land through his father. When he returned to Pakong he revived the production and sale of aluminum kitchen ware, enrolling youngsters from his kin groups as workers. At his private workshop he employs them on piece rate labour contracts. With three other workshops in his hamlet he has putting-out arrangements, supplying them with the raw material and paying them a fix piece rate per product. The products are marketed through villagers, who peddle them in other districts in East Java.

Since independence Ramli and his descendants had been the village heads in Pakong. After Ramli was murdered in 1965, a military care taker was appointed as temporary village head. In 1973 new elections were held in which the military caretaker, Ramli's son and the sugarcane patron Suwarno stood for election. Ramli's son was voted into office with about 45% of the votes. The military care taker and Suwarno both obtained about 25% of the votes. In 1990 a new village head was elected. There were two candidates, Rusti and, again Suwarno. Rusti was Ramli's grandson and a labour broker. His father coordinated his

¹⁰ Members of the village head's kin group and two cane patrons operated as local employment brokers (*calo*) for official and "less" official labour recruitment agencies in Jakarta. The international migrants had to pay about Rp. 600,000 for the preparation expenses, which the poor households borrowed from these brokers. For these loans hajji Hasan and Suwarno charged migrants respectively seven and 12 months of their salary.

campaign through the formal village leaders and tried to capitalize on the family's image as established Madurese village elites. Suwarno, trying for a second time to obtain the post, coordinated his own campaign. However, he failed to form a coalition with the informal village leaders and was also handicapped by his reputation as an avaricious Javanese cane patron and labour broker. Although Rusti was inexperienced and lacked his father's personal authority, the informal leaders such as the cane patrons and *ulamas* trusted that he would receive some on-the-job training from his father. Some days before the election Suwarno withdrew and Rusti remained the sole candidate.

Rusti appointed informal leaders who had supported his campaign to the new public positions that became vacant. Nur Salim, an *ulama* heading both local Islamic primary and a junior secondary school (*Madrasah*), was appointed coordinator for social affairs. Later, Golkar leaders in Bantur proposed that Nur Salim, who was also the leader of the NU organization in Pakong, be made chairman of the official farmers' group (*kelompok tani*). The cane patrons respected him as an Islamic scholar, and the poor households liked him for the interest he showed in their problems. Nur Salim conducted weekly prayer sessions (*tahlil*) in his hamlet and Madurese families in all hamlets invited him to lead their rituals.

7.3 Local Patrons Dominated Cane Production

The Golkar leaders in KUD Bantur, in consultation with the mill's field supervisor (*sinder*) and the village head, selected new chairmen for TRI groups in Pakong. The cooperative leadership's strategy was to decrease the volume of free TRB cane by inviting successful local cane patrons, who also acted as agents for TRB cane brokers, to form new TRI groups. In this way the Golkar leadership replaced the Chinese brokers in their linkage with the local patrons. Most recently two hajji's and the owners of a brown-sugar mill had done this. In 1986 both hajji's returned from Saudi Arabia and became involved in the production and trade of cane as agents for two Chinese TRB-cane brokers in Gondanglegi. The latter was one of the last operators of a brown-sugar mill who had just been elected hamlet leader.

The TRI groups in Pakong functioned like patrons' private credit networks rather than as groups. In the long-established groups only the patrons' kin and clients, cane workers or cane sellers were registered as members and these never met as a group, but only individually with the patron. In these meetings they either asked for credit by referring to his obligations as the head of the kin group or their name was used by him to hide the fact that he monopolized the credit funds. In the newly established groups more smallholders were registered as users of the TRI credit funds.

Earlier I showed that the leadership of the KUD Bantur dealt strictly with indebted TRI groups. The cooperative quickly identified arrears of the TRI groups and tried to find a solution acceptable to both parties. However, when the TRI group leaders failed, they were strict. Since its foundation the cooperative was led by a village head with a military background who demanded discipline in financial matters. In 1990 the Golkar chairman of the Bantur sub-district, who was also the director of a secondary school, was elected chairman of the cooperative. For seven years previously he had been chairman of the cooperative's auditing committee.

In Pakong four types of outgrowers enterprises are distinguished: the smallholder family farms, the smallholder farms, local patron enterprises, and regional patron enterprises. Some of the local patrons can also be classified as regional patrons since they control a large area of cane in neighbouring villages. Five non-resident patrons cultivated 45.5 ha cane in Pakong

and six local patrons cultivated about 60 ha cane in near by villages.

The smallholder family farms were numerically dominant (59%), cultivating an average of 0.49 ha, but only 19% of the local cane area. The smallholder farms accounted for 35% of the cane growers and 34% of the cane area, cultivating an average of 1.44 ha cane. The local and non-resident patrons together accounted for 6% of the cane producers, cultivating an average of 10.83 ha and 10.1 ha. Together they planted 47% of the cane in Pakong. This leaves 19 cane growers' households unaccounted for; to explain this I must first discuss the patron enterprises.

Table 7.1 Cane area cultivated by the different type of enterprises in 1991

Type of production unit	N	%	Farm-size	Cane area	%
Smallholder family farms	145	59	0.49	70.2	19
Smallholder farms	87	35	1.44	125.1	34
Local patrons	11	4	10.83	119.2	33
Non-resident patrons	5	2	10.1	50.5	14
TOTAL	248		1.55	365	

Source: Author's census of the cane producers

The local patrons managed their enterprises along two lines: consanguinity and the extended family farms. These two types will be illustrated by two patrons', Arifin and Suwarno, farm enterprises of respectively 48 and 45 ha. Arifin is a Madurese and Suwarno a Javanese from Bantul, who married the only child of a Madurese patron in Pakong.

Arifin managed as one enterprise the holdings that he and his kin group members living at the same compound (*tanean lanjang*) controlled, as a single enterprise. He was also responsible for the cultivation of 2 ha cane owned by four smallholders who obtained credit through his TRI group. Arifin privately owned 15 ha and rented another 15 ha in Pakong and a neighbouring village. He further managed his parents' cane holdings (7.5 ha), his brothers' (4 ha), and his cousins' (6.5 ha). For cultivation he hired 38 wage labourers, a brother, and two cousins. The latter three acting as foremen. Other cousins and brothers had migrated and left their families under Arifin's protection.

In 1991 Suwarno controlled 25 ha in Pakong and 20 ha in neighbouring villages. He gradually bought the holdings in Pakong and rented about 14 ha in the neighbouring villages. Suwarno appointed his only daughter and her husband in his enterprise as respectively cane overseer for the holding around their house and as truck manager/operator. Suwarno appointed a foreman for 8 ha cane in another hamlet in Pakong and managed the cane in the neighbouring villages, for which he engaged several foremen.

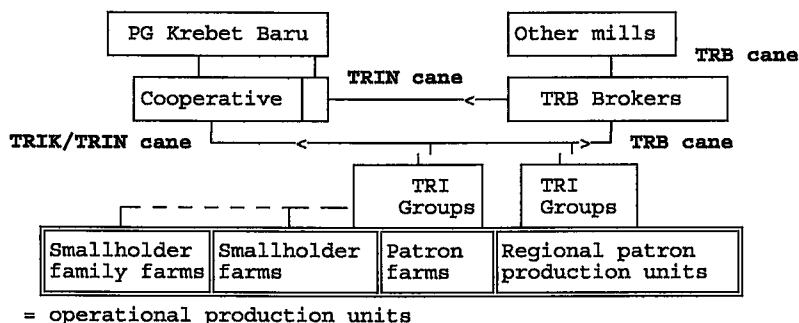
The cane farms of six local patrons were organized along the *tanean lanjang* type and the other five along the extended family type. Thus 19 households still saw themselves as independent cane growers, although the management of their holdings was transferred to six patrons, who were at once their kin group leader, money lender, and in some cases even employer.

Of the cane producing households in Pakong, 48% also were involved in off-farm

activities. All cane patrons were active in trade and money lending, and some of their relatives were civil servants such as village officials or teachers. Of the smallholder families, 43% were involved in wage labour and petty trade; men worked in the cane fields, in masonry, or in the few metal-workshops. Turning to the off-farm activities of cane producers' wives I found that 72% worked only on the family farm and were mainly engaged in the production of food crops. The other 28% worked as farm-labourers in food crop production or were involved in petty trade. Six wives were domestic workers in Saudi Arabia on three year contracts while their husbands took care of the children.

In Pakong the cane harvest was organized by patrons. The Kreet Baru mill tendered the cutting and transport of cane to the Bantur cooperative, which sub-contracted it to the chairmen of the TRI groups who owned trucks. Of the 16 patrons active in Pakong, 12 led a TRI group there or in a neighbouring village. The remaining four patrons were local cane growers/traders who acted as agents for cane brokers in Gondanglegi.

Figure 7.2 Production units and linkages in sugarcane production



Summarizing cane production in Pakong, it can be concluded that the patrons were dominant in the outgrowers' institutions, in the cane harvest, as well as in the share of the cane area they cultivate in Pakong (47%). Instead of TRI groups it is better to speak of a TRI-patron's personal network. These patrons were the sub-contractors of the cooperative for the cane harvest. They managed their small to middle-scale farm enterprises as a *tanean lanjeng* or as a family enterprise. When geographic conditions prevented them from centrally managing the farm unit, they hired overseers and foremen. The vast majority of cane producers (94%) were smallholders, with the smallest among them using only family labour. The smallholders with the largest holdings or who were involved in better paid off-farm employment relied mainly on hired labour. The middle category of smallholders supplemented family labour with hired labour.

7.4 Impact of Sugarcane on the Social Relations of Production

During the 1990/1991 season the cane growers cultivated 310 hectare ratoon (*keprasan*) and 76 ha plant cane (*ungaran*). The latter area was relatively large because many cane growers had expanded their area in 1990 in response to low cassava prices and farmers' efforts to obtain optimum returns without too much risk. They considered the risks posed by erratic rainfall smaller for sugarcane than for food crops. Sugarcane gave higher returns per hectare compared to those offered by share crop arrangements for food crops with tenants.

The cane producers preferred ratoon cane above plant cane because the latter could give low yields on *tegal*. During 1990/1991, the rainy season lasted only four months (December-April), which resulted in extreme low yields for plant cane, such as 20 tons cane per hectare. The yields of ratoon cane on deep fertile soils that season varied between 40 and 70 tons per hectare.

Arifin divided the soils in Pakong into four categories: red sandy (lithosols), the yellow and black clayey (alluvial and mediteran) and brown loamy soils (latersols). He varied the field operations for cane according to soil type and the expected rain and wind conditions. The productivity of the sandy soils varied considerably, between 20 and 50 tons, with the rainfall. Properly managed, Arifin harvested 60 tons from the clayey soils and 70 tons from the brown loamy soils.

To reduce their risks at the start of the rain season when they expected high rainfall, the farmers inter-cropped plant cane and newly harvested ratoon cane with maize. Under these conditions, the negative impact of the maize on the cane was minimal, but the maize could yield three to four tons per hectare.

Sugarcane production led to declining opportunities for share cropping and wage labour in food crop agriculture for poor households. Compared to food crops cane is labour extensive and the field operations can more easily be spread over a longer period. Thus, when the local patrons changed to cane production, their tenants lost the land they usually share-cropped. They also had to compete with the cane patrons for holdings offered for lease. These share-croppers and tenants had little choice other than to either become cane workers or to migrate.

Ratoon sugarcane production on dry-land is mainly men's work. Women in Pakong were dominant in tending dry-land rice, maize, beans and cassava. In plant cane production their role was limited to planting and tending the young crop. Their role in ratoon cane further declined to transplanting and applying fertilizer, as many patrons and smallholders economized on labour expenses. To minimize risk many of them only carried out the essential heavy cultivation operations which are done by male workers. The changes in the farming systems and the ratoon cane production therefore caused women's involvement in cane production to be limited. The patrons' wives did not mind this change, concentrating instead on their families. The women in the poor households, however, lost much needed employment opportunities.

The TRI "group" leaders had regular contact with the mill. They attended demonstrations and meetings organized by the mills' extension staff. To increase their yields they cultivated improved cane varieties for *tegal* that they obtained from the mill and used the mill's filter mud. The smallholders only obtained this technology through the patrons' personal networks and through the teams of cane workers. These patrons employed cane growers who obtained credit through them, to prevent repayment problems with their clients. They feared that these would use the fertilizers to grow food crops and would economize on ridging. For this reason they conducted these central field operations using their own team of labourers. Thus they kept the fertilizer and the cultivation expenses and the production technology of "unreliable members" under their own control.

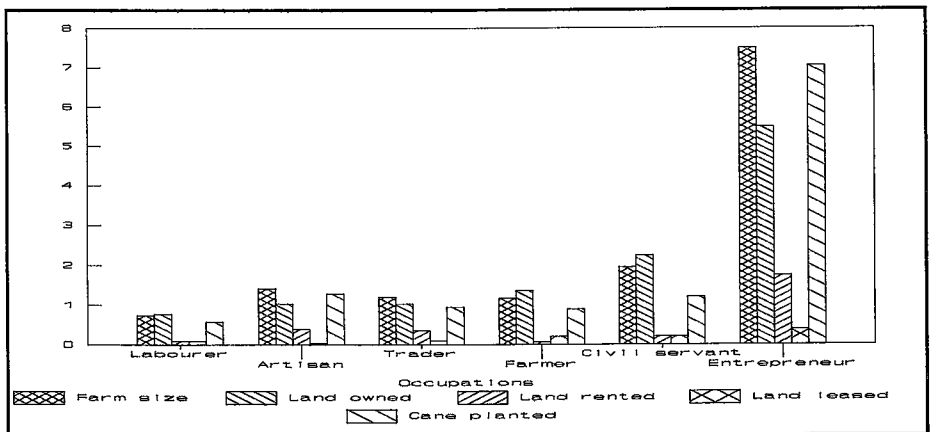
7.4.1 Patron controlled large cane farms

Cane production in Pakong was dominated by a limited number of patrons. During the 1990/1991 season 248 cane producers planted about 385 ha of sugarcane there, an average of 1.55 ha per producer. The other 1150 households planted food crops and on the average only had 0.48 ha. Thus, the cane growing households controlled the larger farms. Earlier I showed that in 1991 16 patrons, being 6% of the cane producers, controlled 170 ha or 47% of the cane area in Pakong. 232 smallholders or 94% of the cane producers cultivated 195 ha or 53% of the cane land. The local patrons cultivated another 70 ha cane in neighbouring villages, while six non-resident cane producers planted 51 ha cane in Pakong.

The local patrons obtained control over large holdings through a combination of arrangements. First, Madurese kin groups pooled their land holdings under the management of a brother or cousin who had access to resources. Second, the local patrons dominated the local land market through their money lending activities. Smallholders and the former village head obtained loans from the local cane patrons, who demanded the usufruct rights to cane holdings as collateral and interest on the loan (*gadai*). These loan-lease arrangements later often became purchase contracts when the lessor needed additional credit.

In 1991 Arifin leased 15 ha land from H. Mustofa's widow, and of that area he bought three hectares. Since 1966 Suwarno had already bought 16 ha land from the former village head and his sister, H. Mustofa's widow. Like other villagers did, Suwarno mocked Ramli's heirs saying that 'They inherited a farm of about 110 hectares from Ramli and later from H. Mustofa, but they lost much of it. The former village head now only has 2 ha private holding and 7 ha salary land'.

Figure 7.3 Average land owned, rented, and leased (ha) by cane producers per off-farm category in 1991



Source: Field Data

The local and regional patrons rented the cane land mainly from the former village head and his sister. Two non-resident entrepreneurs rented a large proportion of the village officials'

salary land (*tanah bengkok*), about 32 ha of tegal.¹¹ The patrons gave loans to village elites, to international migrants, and even to gamblers, using the usufruct rights to a debtor's plot as collateral. Suwarno and H. Hasan acted as brokers for international migration and also lent the migrants the expenses involved. Gambling debts also played a role in this context.¹² Smallholders who urgently needed cash, e.g. for education, health or trade, could lease a holding to one of the local patrons.

An examination of the cane producers' off-farm activities showed that the farm labourers had the smallest holdings (0.74 ha), followed by artisans and petty traders (1.03 ha) and farmers (1.36 ha). The largest holdings were controlled by the entrepreneurs (7.49 ha) followed by civil servants (1.95 ha). The patrons rented by far the largest share of their cane land, followed by artisans and petty traders. The farmers, officials, but also entrepreneurs leased-out a small area of the land they owned (see Figure 7.3). Lack of working capital and labour were mentioned as the main reasons why land was rented out.

The rents and prices for dry land in Pakong were lower than they were in Dadapan. The rents varied from Rp. 100.000 to Rp. 500.000 per hectare per season. The exact rent was based on various criteria, similar to those for *tegal* in Dadapan. Land prices varied widely according to land category and soil type. For fertile dry-land the prices lay between eight and twelve million rupiahs per hectare and for shallow and infertile dry land up to six million rupiahs was paid. Land along the roads that was bought for settlement purposes varied between twelve and twenty million rupiahs per hectare.

The cane producers who cultivated holdings in the navy controlled leasehold had to pay a kind of road tax. Recently farmers have started to cultivate sugarcane and to transport the cane, trucks had to enter the Navy estates. The navy commander charged them Rp. 15.000 per hectare or Rp. 2.000 per truck of harvested cane which was collected by the local stewards of the navy. The tenants' rights over their holdings on the estate land were unclear. Officially they could not sell the land they cultivated but they could pass it on to their descendants. In practice more was possible; in past years local patrons had bought the usufruct rights to large holdings in the estates controlled by the navy.

Summarizing, it can be argued that local cane patrons succeeded in obtaining control over small to middle-scaled farm enterprises. The pooling of land by members of kinship groups, in combination with the leasing and purchase of land, led to these enterprises. The patrons especially rented and bought land from the village head's kin group, village officials, and also from poor households in urgent need of cash money.

¹¹ The village head obtained the usufruct of 8 ha, the village secretary and the hamlet heads each 2 ha, the heads of the section government, development and finances, the information officer and the Islamic official (*bayan* and *modin*) got one hectare each.

¹² The ex-village head and his followers attended cock fights in the South Malang region. In 1991 Ramli's son even arranged officially approved cock fights during his grand son's circumcision feast. To finance the feast, the former village head sold land and borrowed money from families who received remittances from abroad. He also used the *buwo sumbangan* institution to solicit contributions from fellow villagers and guests. In this institution individuals call in debts created by contributions they made to others' festivals in the past and attempts to obtain further contributions by inviting (preferably high status) outsiders whose generosity they might not have to repay (cf. Apriono 1992).

7.4.2 Family and patron-client labour relations

In the previous section four types of production units were distinguished. The majority of the cane producers (59%) worked smallholders' family farms and a minority (6%) worked in patron type of enterprise. The remaining cane growers (35%), were smallholders, who besides family labour also hired wage labourers. The smallholders, who owned the smaller holdings (average 0.49 ha), and did not have regular off-farm income, used only family labour. Ploughing and cane harvest formed an exception, as the following case shows.

Rohim owned 0.50 ha cane which is located alongside his *tanean lanjang*, where his family, his son's, and three sons-in-law's have their dwellings. Rohim cultivated the cane together with the adult members of his family compound; men did the heavy field operations and women the lighter ones. For cutting the old root stocks (*pedhot oyot*) he had an arrangement with his neighbour, who owned draft cattle and a plough (*brunjul*). He paid this man Rp. 2500 for four to six hours ploughing. All adult men worked as cane workers for a hajji, where they earned Rp. 1000 per day and even more during the cane harvest. Rohim sold his cane to a trader in Wonokerto. Their agreement was that Rohim and his sons cut and load the cane.

Of the 85 smallholder farms also engaged in wage labour, 19 supplemented family labour and 66 depended solely on wage labour. The first category on the average owned smaller holdings (0.81 ha) and used wage labour only for specific operations such as ratooning, ploughing, and ridging. They used wage labour arrangements with their neighbours and paid them between Rp. 1000 and Rp. 1250 per day. The latter category owned larger farms (average 1.66 ha), and some of their members were involved in off-farm activities. Five cane growers active in off-farm made arrangements with one of the labourers to act as foreman to make sure the work was done properly. These smallholders also mainly used daily wage arrangements and paid the similar rates for a working day (7.00-11.00). Smallholders whose cane was registered as TRIK cane had the option of borrowing the chairman's team of cane workers. If they did so, they paid for the labour after the cane was harvested. Like the smallholder family farms, these smallholders also relied on the cane cutter teams of the local patrons and the cane brokers to harvest their cane.

The patrons and TRI group chairmen had permanent teams of cane workers of between six to 30 persons, depending on the cane area and the organizational structure of their employer's farm. Earlier, the different organizational structures of Arifin's and Suwarno's enterprises were described. Below follow the labour arrangements they used.

Arifin's land is located around his family's compound. 32 men and eight women work for him on a regular basis, together with three farmers who do the ploughing. He pays the male workers either a piece rate or a lump-sum per plot. For lighter activities, like transplanting (*sulam*) and applying fertilizer he hires both men and women on a daily rate. In 1991 men received Rp. 1500 and women Rp. 1000 for an eight hour work day (7.00-11.00 and 13.00-17.00). Arifin forms his strongest client male cane workers into three cane cutter teams which worked on a piece rate contract of Rp. 120 to Rp. 150 per quintal cane cut. One of the cane cutters, who was appointed foreman, negotiated the tariffs for each plot and divided the money between the team members. Arifin

employed two drivers for his trucks on commission.¹³ Arifin's brother and cousins supervised the cane workers when they worked for daily wages and were co-drivers during the cane harvest.

Suwarno's holdings are scattered over three hamlets in Pakong and two other villages. Suwarno has similar arrangements and tariffs as Arifin does for both the cultivation and harvest activities. Suwarno organizes the work for the cane outside Pakong (16 ha), and his daughter does so for 18 ha cane near their house. Suwarno hires a smallholder as an overseer (*mandor*) to whom he entrusts the cultivation and harvest of 8 ha sugarcane in the hamlet Rejoso. The overseer receives a lump-sum for each field operation, which he implements with his family members and neighbours. After the harvest in 1991 Suwarno paid this overseer Rp. 20.000 per hectare for his services. Suwarno's son-in-law employs a driver to drive Suwarno's second truck on commission.

The patrons used piece rate (*borongan*) contracts for the heavy field and daily wage (*harian*) arrangements for lighter operations. The piece rates tariffs varied slightly per patron but also per soil type. The tariffs were usually higher for the clayey soils than they were for the sandy soils. The entrepreneurs used daily wage (*harian*) arrangements for the lighter field operation, preferring female labourers for activities like planting, transplanting, applying fertilizer and weeding. For a four, and eight hour working day, women received respectively Rp. 500 and Rp. 1000, while men received Rp. 800 and Rp. 1250-1500. The patrons contracted cattle owners to do the ploughing (*brujul*) and paid them Rp. 2500 for a four-hour working day.

Four non-resident patrons and one local one (Suwarno) appointed overseers. These overseers organized the field activities for them with their team of cane workers. However, they received technical instructions and lump sum contracts from their employers. Twenty cane growers had a relative (patron) who was responsible for the field operations.

The cane workers lived in the same neighbourhoods as their employer. They owned small farm holdings where they planted food crops and increasingly also sugarcane. Many of the Madurese cane workers reared cattle, which they either owned themselves or obtained through share-tenancy arrangements with their cane patron.¹⁴ The cattle rearers harvested the cane tops as forage during the dry season, and in exchange they assisted the cane cutters with cane cutting.

In Pakong twelve TRI group chairmen and several agents of TRB traders organized one or more teams of cane cutters. The Bantur cooperative sub-contracted the harvest and transport to eight local patrons and to the five non-resident patrons, all of whom chaired TRI groups in the sub-district. The cooperatives made advance payments of Rp. 20.000 per hectare TRIK cane to the sub-contractors.

The cooperative's tariff for cutting cane was Rp. 115 per 100 kg, but the exact rates were negotiated between the cane owner and foremen of the cane cutting teams (*renteng*). The

¹³ The drivers received a commission of 10% of the gross cash income from the truck. In addition they received Rp. 3000 'lunch money' per cane load delivered at the mill from which they had to pay incentive money to the workers to quickly unload their truck at the mill.

¹⁴ Local and non-resident patrons invested capital in young bulls which they placed under their cane workers and tenants' care through share arrangements. After a nine to 15 month period the bulls were sold and the 'added value' was shared between the patron and his client.

cane cutters demanded additional money for extra work, as was the case in the other two villages. Because the land in Pakong was hilly and gully, the trucks often could not enter the plots and cane had to be carried over larger distances.¹⁵ So the final tariffs varied between Rp. 115 and Rp. 150 per 100 kg. Cane brokers from Malang's sugarcane belt paid their cutters in nearby villages Rp. 150 to Rp. 200 per 100 kg cane, which led to tensions when the local cane cutters asked for the same rate.

The patrons used various mechanisms to keep the costs of labour down and to maintain their labourers' allegiance. First, the patron-cane workers relationship was based on kinship, neighbourhood, labour, and credit ties and even on share tenancy arrangements for cattle, multi-stranded relations which had often existed for many years. Second, in urgent cases the patrons provided social security for their cane workers, such as in the case of medical problems or expenses for rituals. Third, the patrons presented their relationship with the cane workers as reciprocal, the cane workers and the patrons mutually depending on each other. The cane workers needed wage labour for their subsistence needs which the patrons provided through their investments. Fourth, local and non-resident patrons coordinated their labour policies and contacted each other to prevent competition. Fifth, a kind of technical competition existed between the cane workers teams of the different patrons for the size of the yield and the quality of the cutting. Sixth, the patrons made presents to their client cane cutters (*kuli pasten*) at the end of both the crushing season and the fasting month (Ramadhan). Cane workers differentiated between stingy and generous patrons, although they commonly called their patrons fair.

Summarizing the labour relations, it can be argued that family labour is the dominant source of labour in Pakong. However, depending on the size of the farm and involvement in off-farm activities, smallholders did recruit wage labourers as needed. Those with the smallest holdings relied entirely on family labour, and those with the largest small-holdings depended on wage labour. All smallholders relied for ploughing on draught cattle owners and for cane cutting on the teams of the patrons or traders. The patrons engaged a large number of male and female workers. Where the smallholders used daily wage (*harian*) arrangements for the field activities for which they took on wage labour, the patrons and overseers used these only for the lighter field work. For the heavy field operations they used the piece rate (*borongan*) arrangements. Foreman and overseers were used when geographic conditions or off-farm activities made this necessary, but they obtained technical instructions from the employers. Although wages in Pakong were relatively low, labour conflicts or silent forms of resistance were seldom mentioned by either the labourers or the employers. The lack of alternative multi-stranded patron-client networks largely prevented such tensions.

7.4.3 Patron commanded TRI credit

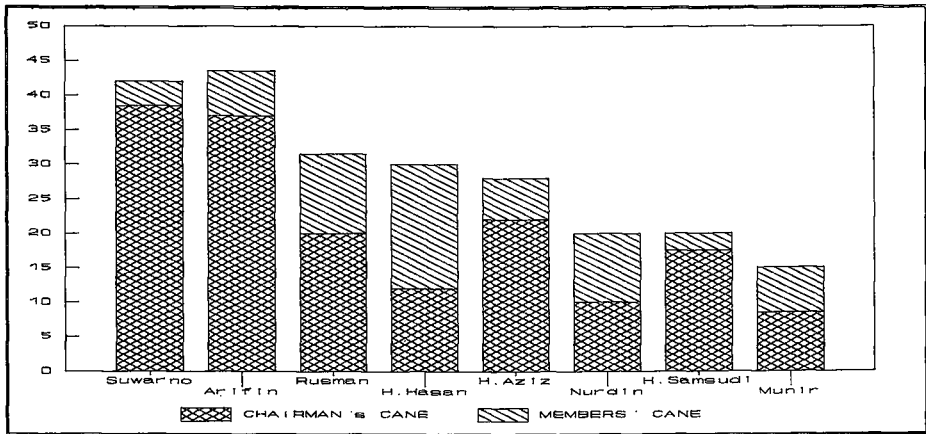
This section will focus on credit and the strategies used by cane producers to obtain working capital. For the 1990/1991 season KUD Satya Darma obtained TRI credit funds from the BRI bank in Malang for 1,622 ha which they supplied to the cane producers through the TRI groups. Seven TRI groups in Pakong obtained TRI credit for 215 ha old ratoon cane on *tegal* (TRIT IV). Two other, indebted TRI groups, obtained only fertilizer for 25 ha TRIP cane

¹⁵ During the months that the trucks queued in front of the Kreet Baru mill, the cane cutters were on 24 hour stand-by to load them as quickly as possible.

(*Tebu Rakyat Intensifikasi Pupuk*: People's cane intensification for fertilizer).¹⁶

The cooperative did not allocate all the TRI credit funds to the TRI groups and cane producers. These obtained only fertilizer and cultivation expenses from the cooperative to the amount of 1,200 kg fertilizer and Rp. 1,500,000 per hectare TRIT IV cane.¹⁷ The TRIT IV package included a living expenses component of Rp. 100,000 which the cooperative did not pay out to reduce the credit burden. Instead it provided a credit of Rp. 50,000 per ha to individual producers who requested these funds. For the cane harvest the BRI bank provided a loan of Rp. 100,000 per hectare of which the cooperative paid Rp. 25,000 per hectare to its sub-contractors, the patrons. Thus the cooperative kept about Rp. 175,000 per hectare TRIK cane for its own credit activities. For the TRIP cane the cooperative provided only fertilizer with a value of Rp. 163,000 per hectare.

Figure 7.4 Division of TRI funds (ha) between the TRI groups' chairmen and members in 1991¹⁸



Source: KUD Satya Dharma 1991 and author's census of the cane producers

The cane producers obtained TRI credit for only 65% of the cane they cultivated in Pakong. During the 1990/1991 season the cane producers planted about 385 ha sugarcane in Pakong.

¹⁶ One TRI group chairman still had an outstanding debt to the TRI credit programme on which he made annual payments after the cane harvests. The mill's supervisor (*sinder*) formed an extra TRI group with 50.5 ha TRI sugarcane in the name of H. Hasan of Pakong. Ten cane growers from Pakong and several entrepreneurs from Bululawang and Gondanglegi obtained TRI credit through this group. The first were members of the TRI group led by H. Mustofa's widow, which the cooperative excluded from obtaining new credit funds because of debts. The latter cultivated about 40 ha cane on land they rented from the navy.

¹⁷ The fertilizer had a value of Rp. 252,000 per hectare but the outgrowers exchanged the phosphate and potassium for nitrogen fertilizer which made the actual value Rp. 20,000 lower. The cooperative distributed the fertilizer in December 1990, one and a half months after the start of the new rainy season.

¹⁸ The distinction between the chairman's and members' cane was problematical. In case the chairman managed the members' cane from ratooning till harvest, it was regarded as chairman's cane. If the members carried out some of the field operations themselves, it was considered to be members' cane.

The mill and the cooperative limited the cane area for which they provided TRI credit funds to 215 ha in order to reduce the risk of bad debts in case of a crop failure. Of this 215 ha TRI credit, the local patrons used 30 ha worth for cane they cultivated in neighbouring villages. Non-resident patrons used TRI credit for 40 ha cane from TRI groups they controlled outside Pakong. For about 225 ha cane they obtained TRI credit, for 25 ha fertilizer on credit, and for the remaining 135 ha the growers had to find alternate sources.

The limited TRI credit funds led to tensions about its distribution between the leaders of the TRI groups and the cane growers. The village head and the mill's field staff could make suggestions about this distribution, but the chairmen considered themselves to be responsible, because they were personally accountable in case of arrears. Thus the chairmen gave the highest priority to sugarcane they managed themselves, followed by that of family members. The lowest priority was given to the cane of ordinary members. During the 1990/1992 season the TRI chairmen used 72% of the TRI credit funds for their own enterprises (Figure 7.4). They hid this fact by using the names of members of their kin group or cane workers.

In Pakong the TRI groups functioned as a patron's network rather than as group. Initially the TRI groups were formed around the leader but they also had to allocate credit to smallholders in their hamlets. But when the chairmen's cane area expanded, they first excluded rebellious smallholders and replaced them with their relatives and cane workers. Later, relatives who remained independent producers were advised to form their own TRI group or to look for credit from TRB brokers.

Suwarno leads the oldest TRI group in Pakong. For the 1990/1991 season he obtained credit funds for 42 ha, of which he gave only 2.5 ha worth to two cousins. Suwarno obtained TRI credit for 87% of his 45 ha cane. He uses mainly organic fertilizer for his cane and allocates the TRI fertilizer to smallholders on contract, in which he gains the marketing rights to their cane. For the 1991/1992 season Suwarno kept all the TRI funds for himself and told his cousins to take fertilizer on contract basis or to look funds from a regional broker. H. Hasan's group was most recently established and in 1991 he used 40% of the funds for his own cane. He obtained credit for 12 ha while he cultivated 16 ha cane (75%). For the 1991/1992 season H. Hasan used 52% of his "groups" funds and he excluded smallholders who violated the mill's trading restrictions or opposed his harvest schedule.

Earlier it was explained that the TRI patrons did not pay for the cultivation expenses of ordinary members. Instead, they gave them the option of using their team of cane workers for the field operations, and to settle after the cane was paid for by the cooperative. The TRI patrons used the funds their clients were entitled to for their own trading projects.

The local patrons and smallholders, who were excluded from TRI credit, had to make arrangements with local and regional brokers. Above it was shown that the TRI patrons did not obtain TRI credit for all their cane. However, they could easily spread the funds over a larger area. One patron and some smallholders did not mind being excluded from TRI funds because they judged TRB cane to be more profitable. They obtained fertilizers and pre-harvest credit on contract from sugarcane brokers, among them the TRI patrons. The form of the contracts they used will be explained in the next section. Several local patrons obtained loans from Chinese and Madurese brokers in Gondanglegi, both for cultivation expenses and to buy land.

To summarize, the strategy of the supra-local TRI institutions was to limit the TRI credit funds for the *tegal* area. This placed the TRI patrons in a central position to allocate the

funds between their private cane farm, those of their relatives, and those of neighbours with whom they had no kinship ties. Both the cooperative and the TRI patrons had their own projects when they divided and allocated the credit. The cooperative did not pay out all the funds to which the TRI groups were entitled, and the TRI patrons did the same with their members. The cooperative leadership and TRI patrons claimed that in this way they protected the cane growers from a too heavy credit burden. At the same time, they used the funds for private gain both in money lending and in the cane trade. Cane growers who were critical of the marketing regulations for cane were excluded from new TRI credit.

7.4.4 Patron controlled cane marketing

In this section quantitative information about the volumes of cane that were traded in 1991 through the various agro-industrial linkage channels will be presented first. Next the organizational form of the linkages and the strategies of the actors involved at the local level and their relations to supra-local level will be discussed. Like Sidodadi Pakong is located in PG Kerebet Baru's procurement area and thus the village elites attended the same opening ceremony for the crushing season as the elite from Sidodadi did.

The cooperative of the Bantur, *KUD Satya Dharma*, supplied 777,407 quintal sugarcane to the Kerebet Baru mill during the 1990/1991 season, of which 557,400 quintal or 72% was TRIK cane and the remaining 28% TRIN cane. About 20% of it came from Pakong. The eight TRI groups in Pakong supplied 124,897 quintal cane or 74% of the cane produced there. Of this cane they supplied 55% as TRIK cane and 21% as TRIN cane through KUD Bantur. The remaining 25% of the cane they sold through TRB cane brokers. TRI groups in neighbouring villages in the Bantur sub-district supplied 18% of the cane produced in Pakong (30,000 quintal). To the Pakong village head this was TRB cane, but for KUD Bantur 30% was TRIK and 70% TRIN cane. The remaining 8% of the cane was supplied through the local agents of TRB cane contractors. Thus, from the village perspective respectively 46 and 28% of the cane was supplied as TRIK and TRIN cane through TRI groups and the cooperative in the Bantur sub-district. The remaining 27% was TRB cane that, rather than passing through the KUD Bantur, was supplied through TRB cane brokers. These sold it mainly as TRIN cane through KUD Bululawang or Gondanglegi to PG Kerebet Baru. Only between 1 and 2% of Pakong's cane was crushed by other mills (PG Kebon Agung and PG Ngadiredjo in Kediri district).

Table 7.2 Approximate turnover in quintal per marketing channel in 1991

Marketing Channel	TRIK	TRIN	TRB	TOTAL	%
TRI groups Pakong	68,010	25,787	31,100	124,897	74
TRI groups Bantur	9,000	21,000		30,000	18
TRB cane brokers			14,300	14,300	8
Total	77,010 46%	46,787 28%	45,400 27%	169,197	

Sources: KUD Satya Dharma 1991 and inventory by author

The proportions of TRIK, TRIN and TRB cane differed widely between the TRI groups in Pakong. Only two local TRI patrons, among them Arifin, obtained a TRIN register. The majority of the TRI patrons, however, had credit and trade arrangements with TRB cane

brokers, who had their offices in Gondanglegi and Bululawang.

At the start of the crushing season in 1991 Arifin sold ten trucks of cane as TRB cane in order to obtain cash with which to make advance payments to his labourers and later to overhaul one of his two trucks. That year Arifin controlled about 23,000 quintal cane. 42% of this he supplied as TRIK cane and 56% as TRIN cane. Suwarno borrowed money from a Chinese and a Madurese broker in Gondanglegi to finance his land acquisitions and cane trade. In 1991 he controlled about 27,000 quintal cane of which he supplied 45% as TRIK cane. The remainder he sold as TRB cane to his money lenders in repayment of his loan. H. Hasan supplied 55% of his cane as TRIK cane, 19% as TRIN cane through two local TRI groups, and 26% as TRB cane to Chinese and Madurese money lenders/brokers in Gondanglegi.

The TRI group chairmen in the Bantur sub-district had pressed their cooperative to accept the mills' policy of price differences for different cane categories.¹⁹ However, local patrons complained that the price they had to pay for their loyalty to the cooperative was too high. Arifin explained to the KUD chairman that he lost Rp. 150 per quintal cane when he sold the cane through the cooperative rather than to TRB cane brokers. A coalition of TRI patrons gave the cooperative the option of adopting the mills' policy for TRIN cane or losing their loyalty.

During the 1991 season, the mill introduced the TRIN marketing strategy and decided to levy respectively Rp. 65 and Rp. 11.5 per 100 kg TRIK and TRIN sugarcane. The cooperative tried to limit the number of TRI patrons who could open a special TRIN register at the mill. It approved the requests of two TRI patrons in Pakong to get bulk supply contracts for TRIN cane. The other TRI group chairmen were less interested in these contracts since they had already tied themselves to TRB cane brokers in Gondanglegi and Bululawang through loans. The two patrons with a TRIN register allowed H. Hasan, to whom they were both related through their wives, to make use of it. Later, when more local TRI patrons wanted to sell their TRB cane as TRIN cane, the mill allowed them to do so for a limited number of trucks.

Almost all patrons operating in Pakong were both cane producers and traders. Earlier it was mentioned that local patrons (TRI and TRB) obtained loans from TRB cane brokers in Gondanglegi and Bululawang for land transactions and the cane trade. The TRI patrons used the TRI credit funds and additional loans to lay a claim on and buy TRB cane in Pakong and in neighbouring sub-districts. Arifin, for example, bought cane in the Pagak and Kalipare sub-districts, and Suwarno in the Bantur and Sumbermanjing sub-districts. Besides the TRI patrons, one local patron operated as TRB cane trader (*bakul*), and several smallholders and overseers of non-resident patrons acted as agents (*pelantar*).²⁰ These agents' transactions were not without risks for the patrons, because the agents could intentionally or not, make

¹⁹ Until 1990 the cooperative leadership refused to change its policies towards TRIN cane. The cooperative had the ambition to be one of the model cooperatives in the Malang district and the leadership considered the formation of its own capital as essential for that purpose.

²⁰ Like in Dadapan, the trader buys cane for his account using his own capital, while the agent mediates in transactions between local cane growers and his broker. The trader organizes the harvest and obtains all deficits and profits made on the transaction, while the agent obtains only a commission for it.

mistakes in their estimations of the yield.²¹ The TRB cane brokers at the supra-local level provided local patrons with loans that were to be repaid with TRB cane, and gave commissions to their agents.

The patrons and traders bought cane both through the futures and the current cane market. When cane growers wanted fertilizer on credit or loans (*kontrak*), the traders laid marketing claims on their cane. They also made advance payments on pre-harvest purchase (*tebas borongan* and *tebas kwintalan*) transactions. For the current cane market they negotiated lump-sum (*beli borongan*) and unit-price (*beli kwintalan*) transactions with the cane owners. The futures market was more lucrative for the traders and the current one for the cane owners, because of price competition. Arifin estimated that during the 1991 crushing season about 3 to 5% of the TRB cane in Pakong was bought using the contract system, 15 to 20% using the pre-harvest system, 65 to 70% using the lump-sum system, and 5 to 10% using fixed price arrangements.

The TRI chairmen tried to supply just sufficient TRIK cane to repay their TRI credit. The balance they sold to the mill as TRIN cane or as TRB cane to brokers. The latter sold most of it also as TRIN cane to the mill through cooperatives that did not charge commission,²² and to the contractors of mills offering better terms than PG Krebet Baru.²³

The TRI patrons carefully coordinated their trading activities with each other. They met several times a week, either at the KUD Bantur office in Wonokerto, where they collected the cane harvest/transport documents (SPA/SPT), or in Pakong, when they were looking for new cane marketing transactions. On these occasions they informed each other about the *rendemen* and cane prices for the period given by PG Krebet Baru mill, and the cane prices offered by the cane brokers in Gondanglegi and Bululawang. They also informed each other about the status of the cane for which they were negotiating, to prevent competition amongst themselves or being cheated by the owner of the cane. In Pakong it had happened that cane producers sold their cane twice or tried to sell TRIK cane as TRIN cane.

In summary, it can be argued that the patrons bargained with the cooperative and the mill for better marketing conditions of their cane. The patrons supplied 46% of Pakong's cane as TRIK cane, to fulfil their contractual obligations and to guarantee the continuity of TRI credit funds. The patrons forced the cooperative to adopt the TRIN cane marketing policy and to reduce its levies and commissions. The first year that the cooperative accepted the TRIN category, 28% of the cane was already supplied as TRIN cane. For this TRIK and TRIN cane that passed through KUD Bantur, the levies were still high, compared to those levied by cooperatives in the traditional cane centres. Brokers there used the patrons'

²¹ A TRI group leader complained he had twice asked the foreman of his cane cutters team, a cousin, to buy cane from a smallholder. In both cases he lost money on the deal because the agent was too optimistic about the prospective yields. There were rumors that the foreman had made a deal with the cane owners from which they had both gained.

²² The patrons felt an allegiance to PG Krebet Baru as South Malang's mill. However, their loyalty waned when their trucks had to queue too long at the mill's gate. Then they preferred to sell their cane as TRB cane to PG Kebon Agung or to the contractors of mills from outside the Malang district.

²³ During the first months local patrons sold several trucks with sugarcane to PG Ngatiredjo in Kediri. They wanted to compare the returns from that mill with those of PG Krebet Baru. In 1991 the Kediri mills started a national experiment with a new system of fixing the sugar content per truck and paying cash for the cane. However, they concluded that the advantages of the system were outweighed by the inaccuracy of the mills' scales.

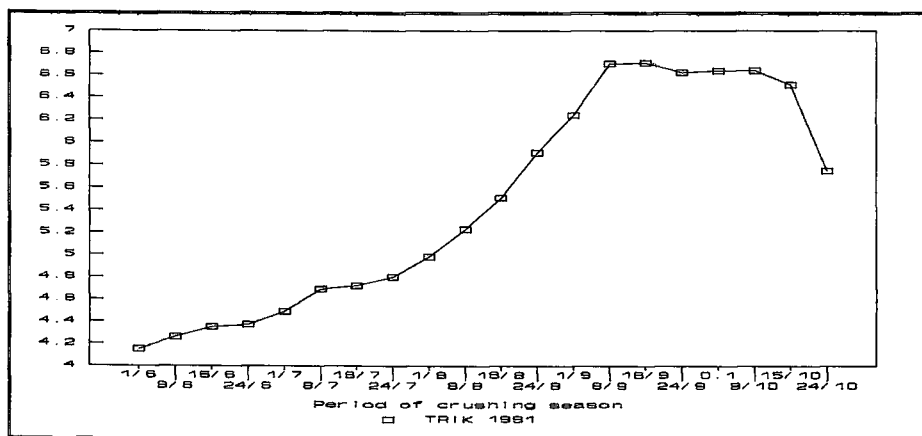
difficulty in obtaining credit as part of their strategy to lay claims on their TRB cane. They obtained about 25% of Pakong's cane and sold it as TRIN cane to PG Kreet Baru, using cooperatives that did not deduct levies from TRIN cane. The patrons and brokers supplied only 2% of the cane to mills other than PG Kreet Baru.

7.5 Local Tensions in the Relations of Cane Production

Sugarcane production has contributed to social differentiation at the village level. A small number of patrons controlled the major share of the cane area and with the funds they had accumulated from cane production they dominated the land tenure market. Land accumulation by wealthy patrons and land fragmentation by the poor households did not lead to tensions. It was a cause of frustration for the kin group of the village head and also for poor households, who either failed to lease land or had to lease or sell their holdings to raise funds for medical care, education, or migration. Unclear land tenure relations in the former estates have led to the acquisition of land by patrons. In future this can easily lead to tensions between the navy, the local government, the cane patrons and smallholders.

Although labour costs in Pakong were relatively low, conflicts about labour did not yet occur. The cane patrons were the only employers in the area and they had their permanent teams of workers. The relations they had with the labourers were interwoven with kinship, neighbourhood and share tenancy relations (i.e. cattle rearing). These cane workers also relied on the patrons for loans of money and subsistence security in the isolated village of Pakong. In the social and religious institutions in Pakong the patrons also occupied leading positions. These multi-stranded relationships in the patron-client networks prevented open labour conflicts in a situation of growing differences in wealth. The teams of permanent cane workers complained and pleaded for better remuneration when national sugar prices increased or when non-resident patrons paid their labourers better than local ones did.

Figure 7.5 Outgrowers' sugar content (%) for TRIK cane of KUD Bantur during the 1991 crushing season



Source: Field data

Tensions were more common in the credit and marketing relations between on the one hand the TRI institutions and the patrons, and on the other between the patrons and the smallholders. The supra-local TRI institutions' policy to limit the TRI credit and to make the TRI patrons personally responsible for their repayment, placed the patrons in a central position for credit distribution. First, the cooperative did not pay all TRI credit to the patrons and the patrons did the same thing to the smallholders. Second, the patrons monopolized the distribution of credit and utilized it for their kin and less "reliable" smallholders.

The exclusion of smallholders from credit caused conflicts. The TRI patrons tried to obtain TRI funds for their private cane area and for their cane-trade activities. They therefore gradually excluded the smallholders, to begin with the ones who had been critical and opposed the trade and harvest regulations for TRIK cane. These smallholders confronted the patrons with their own ignorance of the trading restrictions and their self-centred harvesting schedules. The patrons sought the backing of the village head against such critiques to exclude these critical smallholders from the TRI credit.

The trading restrictions and the harvesting schedule led to tensions both between the mill officials and the TRI patron, and between the TRI patrons and the smallholders who used TRI credit. During the crushing season, the eight TRI groups in Pakong had to supply 14 truck-loads or about 1000 quintal sugarcane per harvest day. When the TRI patrons refused to meet their quota, the mill's field supervisor put them under pressure.²⁴ The sugar content (*rendemen*) of cane in the Bantur sub-district showed a curve similar to that of the TRI group in Sidodadi, as is illustrated in Figure 7.5. The TRI patrons applied different strategies to prevent having to harvest their own cane when the sugar content was low. Suwarno and Arifin bought TRB cane from smallholders, which they harvested during the first months of the crushing season, when the *rendemen* was still low. In 1991 H. Hasan planted a relatively large area plant cane (*ungaran*), and he therefore pressed smallholders to have their cane harvested at the beginning of the crushing season. The patrons tried to harvest the major share of their own cane from August onwards, when the sugar content and thus the cane prices reached their peak.

The TRI patrons also ignored the mill's trading restrictions when this was to their advantage. The TRI patrons supplied 25% of the cane they grew as TRB cane. They justified this by claiming that it was cane they had bought from TRB smallholders. Smallholders, however, argued that the patrons implemented the trade regulations strictly when the smallholders were concerned, and flexibly when it suited themselves.

The TRI group chairmen wanted to keep all their groups' TRI credit funds under their own control. Their cane workers supplied the fertilizer for the smallholders. When the smallholders demanded the funds for their cultivation expenses, the chairmen ordered his team of cane workers to carry out the field operations for the smallholders. After the cane harvest the TRI group chairmen deducted the cultivation expenses involved from the smallholders' proceeds. Tensions emerged when smallholders protested against patronage, but the TRI chairmen justified their policies by pointing to the fact that they were accountable if the TRI credits were not repaid.

In 1991 tensions arose in H. Hasan's TRI group when he expanded his own cane

²⁴ In July 1991 Arifin and H. Hasan failed for ten days to supply their quota. The mill's supervisor visited the cooperative, the village head, and both patrons, and found out that their mother-in-law was sick. The supervisor advised them to supply their quota, otherwise their quota would be reduced. The patrons wanted to keep a maximal quota during the months that the sugar content was high.

enterprise, excluding smallholders who had opposed the mill's regulations. The tensions emerged because non-kin smallholders in his group criticized his policies. H. Hasan justified his decisions by pointing to the cane producers' refusal to follow the mills' harvesting schedule or his technical instructions.²⁵ The chairman secured the backing of the village head and *ulamas* which limited the scope of the tensions. The village officials got TRI credit funds for their area and so little was done about the smallholders' complaints.

The leadership of the cooperative was concerned about the growing gap between the patrons and smallholders in Pakong. The TRI patrons increasingly dominated cane production through the wealth they accumulated. They also saw the public outgrowers institution at village level as their private enterprise. Using credit they received through the cooperative, they had acquired trucks and even cars. They monopolized information and appropriated the capital shares in the cooperative (*dana saham*) of smallholders which was levied from their cane supplied through the cooperative. To counterbalance these local entrepreneurs, the cooperative leadership lobbied for the local *ulama* Nur Salim to become chairman of the farmers' group (*kelompok tani*) and Golkar representative in Pakong.

7.6 Conclusions

In the limestone area of South Malang, cane production was introduced and expanded since the rise of the New Order government. The waste lands, the areas which indigenous farmers around 1880 had ignored for food production, were developed into coffee and later into rubber estates. During the struggle for independence these estates were largely destroyed and until the late 1960s the area was rather unstable politically.

The local elites obtained relatively large holdings on the former estates, where during the 1950s they experimented with cane production. However, the distance to the nearest sugar mill as well as the condition of the infra-structure forced them to produce brown sugar. When during the late 1960s the infrastructure improved, the cane producers gradually began selling their cane to the mill. After 1978 the mill and the local government actively promoted cane production and the formation of TRI groups. The leadership of the Bantur cooperative was less responsive to pressure from the elite at the village and the sub-district levels. Strict implementation of credit policies by the cooperative forced the family of the village head to settle their TRI credit debts by selling land. As a consequence, local patrons took over the responsibility of the administration of the TRI credit programme from clients of the administrative elite. These patrons have maintained their dominant position in the organization of cane production.

Three types of cane production units were distinguished: the patron's enterprise, the smallholders farm, and the smallholders' family farm. 16 patrons or 6% of the cane growers, managed 44% of the cane in Pakong. Non-resident patrons did not occupy a dominant position in Pakong, and local patrons also were also active outside Pakong. The patrons manage their small to middle-scale farm enterprises along kinship lines or as an extended family enterprise. When geographic conditions prevent the central management of the farm

²⁵ The chairmen of the TRI groups had to supply a fixed quantity of sugarcane during the whole of the crushing season. When they failed to do so the mill could decrease their cutting targets for the remaining months of the season. The TRI chairmen preferred to supply their members' and purchased sugarcane at the start of the crushing season and their own cane when the sugar content had increased.

unit, the patrons engage overseers and foremen. The vast majority of cane producers (94%) control smallholder's farms, the smallest of which use only family labour. The smallholders with the largest holdings or who are involved in better paid off-farm employment, rely mainly on hired labour. A middle category of smallholders supplements family labour with hired labour. The patrons dominated the outgrowers institutions at the local level, and because they own trucks they also organized the cane harvest as sub-contractors of the cooperative in the Bantur sub-district.

Cane production in Pakong goes at the expense of food crop production. Patrons like cane because of the higher returns it gives compared to dry-land food crops that can be cultivated there. Cane yields are also less affected by erratic rainfall, although this is not the case with plant cane (*ungaran*), which is why ratoon cane is strongly favoured. The patrons have capital and through their connections with the mill's field staff were able to acquire the know-how to experimentally raise the yields of ratoon.

The expansion of cane production went at the expense of the poor households who rely on share-tenancy and labour arrangements in food crop production. They can no longer lease land through share-tenancy arrangements because the landlords cultivate ratoon cane on it. They have to either become their cane workers or migrate. Like in Dadapan, in Pakong the shift from food crops to ratoon cane also goes at the expenses of labour opportunities for the poor women.

The impact of cane production on the land tenure relations in Pakong has been the concentration of land in the patrons' hands. The local patrons first leased and later bought land, especially from the village head's family after his brother-in-law died. Non-resident patrons also leased land he formerly controlled. The pooling of land by members of kinship groups in combination with the acquisition of land and lease arrangements for poor households that were tied to credit, led to a limited number of small- and middle-scale enterprises in Pakong.

Cane production replaced share-tenancy by wage labour arrangements for the landlords. The smallholder family farms continue to rely almost entirely on family labour. The smallholder farms recruit varying amounts of wage labour, depending on the size of the farm and the off-farm activities of the household members. Smallholders in both categories rely on neighbours owning draft-cattle for ploughing and on the patrons' teams of workers for cutting their cane. Where the smallholders pay mainly daily wages (*harian*), the patrons and their overseers do this only in case of lighter field tasks. For the heavier field operations they prefer piece rate (*borongan*) arrangements. Foremen and overseers are hired when geographic conditions or off-farm activities make this necessary.

Another impact of cane production was the introduction of formal credit programme at the village level. However, the limiting of the funds for cane grown on *tegal* by the supra-local TRI institutions and the fact that patrons are responsible for the repayment of bad loans, caused credit to become almost impossible to get for smallholders without kin ties to the patrons. These patrons practice nepotism, using the funds first for their private cane farms and secondly for those of their relatives. The cooperative did not pay out all funds to which the TRI groups were entitled, which the TRI patrons in turn did to their official credit takers as well. The cooperative leadership and the TRI patrons claimed they were protecting the cane growers from too heavy a credit burden while using the funds for their private projects, both in money lending and in the cane trade.

In the marketing relations the patrons bargained with the cooperative and the mill for better conditions for themselves compared to smallholders. In 1991 they supplied 46% of the cane grown in Pakong as TRIK cane, sufficient to fulfil their contractual obligations and to

guarantee continuity of TRI credit. The cooperative's levies made it more attractive for patrons to sell their TRB cane to brokers which forced the cooperative to adopt the mill's TRIN cane marketing policy and to reduce the levies and commissions it charged. During the first year, the patrons already supplied 28% of their cane as TRIN cane. For this TRIK and TRIN cane, which passed through the KUD Bantur, the levies were still high compared to those charged by the cooperatives in Malang's sugarcane belt. Brokers in these centres used the local patrons' poor access to credit and the high levies of KUD Bantur to gain a claim to patrons' TRB cane. They obtained about 25% of the cane and sold it as TRIN cane to PG Krevet Baru, using other cooperatives. The patrons and brokers sold only about 2% of the cane to mills other than PG Krevet Baru.

Conflict of interests in sugarcane production in Pakong emerged in the organizational structure of the linkages rather than in the production units. Land tenure relations were frustrating to the poor households who had not yet found a strategy to cope with land markets. Smallholders' farms seldom had labour issues, while patrons recruited labourers through the multi-stranded relationships they had their cane workers in their neighbourhood. This prevented labour conflicts in a situation of considerable differentiation of wealth. The patrons further used family members as care-takers to prevent being cheated by their cane workers. Delegating responsibilities, however, was risky because the care-takers took advantage of opportunities to promote their private interests.

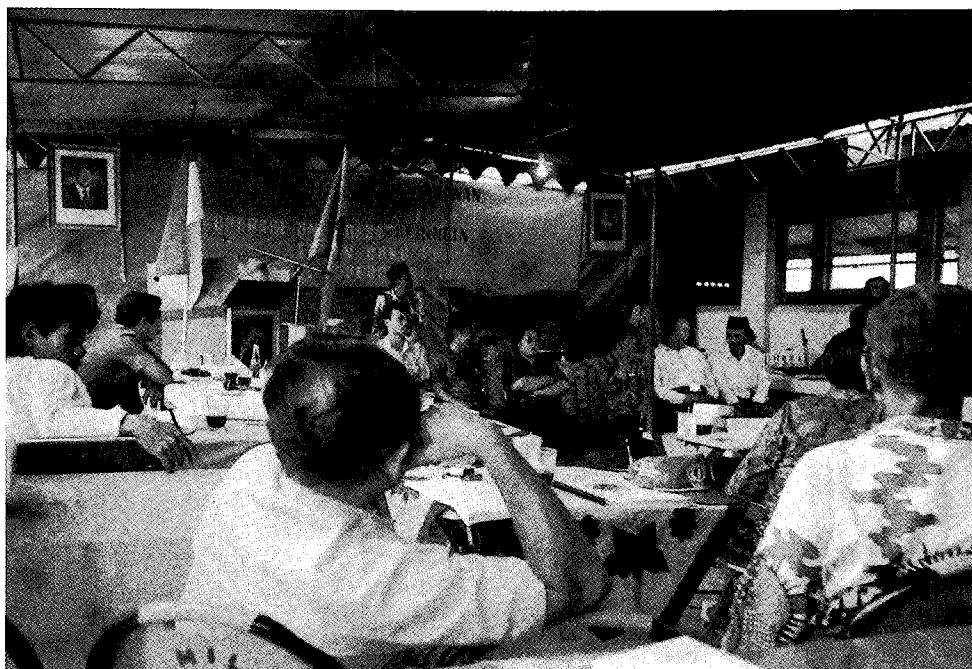
Mechanisms to alleviate tensions caused by the shortages of TRI credit were limited. The TRI patrons tried to monopolize the information concerning the implementation policies of the TRI credit and marketing programme. With the consent of the village head they denied TRI credit funds to the more critical smallholders. These in turn approaches the more flexible TRB cane brokers. The mill, the cooperative and the patrons also had to find mechanisms to deal with their conflicting interests: the cane categories and the cane supply schedules. The cooperatives attempted to prevent the implementation of policies that had a negative impact on their incomes, but they could not ignore the patrons' threads. The result was that the cooperative was forced to give in to the mill's and patrons' marketing interests, namely price differentiation for TRIK and TRIN cane.

As an economic elite the local patrons also participated in village and religious organizations. The village head asked the Madurese patrons to participate in the village institutions, such as LKMD and LMD, in order to obtain their political and financial support. The patrons had either constructed places of worship (*langgar*) in their *tanean lanjang* or made major contributions to the mosque in their neighbourhood or hamlet. They also made contributions to Islamic social foundations in Pakong, such as Nur Salim's *Madrasah*, an Islamic primary and secondary school. They attended weekly *tahlil* gatherings and the village meetings. During these contacts and meetings they also aired their perceptions of tensions in the social relations of cane production. H. Hasan, for example, often acted as *ulama* in his hamlet, promoting ideas of economic liberalism, acceptance of one's fate, and individual responsibility for family welfare.

The cooperative's leadership was ambivalent about the processes of differentiation in Pakong. On the one hand they were worried about the self-centred policies of some TRI group chairmen, who used the TRI institution for their private gain and excluded critical smallholders when their cane areal expanded. On the other hand, as an economic enterprise they had to pay attention to the interests of the economic elites at the village level, seeing these patrons as the engines for the economic development of their sub-district. The Part Three of this study will deal with the strategies and dilemma's of the actors in the TRI institutions at the supra-local level.

Part Three

**PATTERNS OF INTERACTION IN MALANG'S
SUGAR INDUSTRY**



8 DIVERSITY IN THE MILLS' HINTERLANDS

This chapter aims to compare the nature of the linkages in cane production and the agro-ecological and sociopolitical conditions at the village level. In the previous three chapters, I described the organization and social relations of cane production in three villages, each with different agro-ecological conditions and cane expansion histories. The interrelations between local initiatives and the intervention of economic and political actors external to the villages, has resulted in a variety of linkages for the different sub-regions. This comparison of local agro-ecological and sociopolitical conditions with the nature of the linkages aims to give to a better understanding of local diversity, both in the organization and in the interfaces of cane production.

Agro-ecological conditions have had an impact on the settlement pattern, on dominant agricultural activities, the local political structure and on farm-size distributions. In this chapter I shall compare the intermediate forms of organization in cane production and the interactional patterns in these units at the village level. I shall also compare the impact of the organization on the nature of the linkages between production units and the actors at the supra-local level. The interactional patterns of these linkages with the supra-local levels of the sugar production system will be analyzed in the later chapters.

This chapter begins with a comparison of the historical development of the linkages in cane production in the different agro-ecological zones. Next I examine the connection between linkage types and the organization of cane production, after which the interrelations between linkages and the cane production technology are analyzed. The chapter goes on to look at the impact of the type of linkages on the patterns of interaction in land and labour relations, as well as credit and marketing relations. In the final section I analyze the mechanisms through which the actors in units in the different organizational forms coordinate cane production at the village level. Appendix 5 shows economic information about the average expenses of labour and production for the different production systems in the three locations.

8.1 Historical Development of Linkages in Relation to the Agro-ecological and Socio-political Environment

A comparison of ecological and geographical conditions shows that the irrigated areas have the highest population densities. The communities in these *sawah* areas have better soils, a more reliable water supply, and are more easily reached than those in the *tegal* areas. Intensive irrigated rice and cane production are the dominant agricultural activities in irrigated areas. The first is more prominent in the areas with clayey soils and the second in areas with sandy soils and poorer irrigation. In the *tegal* areas mixed farming systems were found, a strategy to meet the risks brought by climatic conditions. Wealthier farmers, however, specialize in cane production.

The economies of the irrigated area are commoditized and diversified further than those in the dry land areas. Commonly the cultivation of rice and cane on irrigated land needs twice the value of inputs as those on dry land do, but the yields are also about doubled.

Table 8.1 Agro-ecological and socioeconomic conditions in three villages

	Dadapan (<i>tegal/sawah</i>)	Sidodadi	Pakong
Geography			
*agro-ecological zone	low volcanic/alluvial	alluvial	limestone
*elevation	350-500 m	300 m	250-500 m
*dominant soil texture	sandy loam/sedimentary clay	sandy-clayey loams	sandy loams/on limestone
*soil depth	deep	deep	moderate-shallow
*topography	gently sloping/flat	flat	hilly
*agro-climatic zone	C ³ /lowland	C ³ /lowland	D ³ /lowland
*average rainfall	2800 mm	2500 mm	2000 mm
*access wet season	reasonable	good	very difficult
*distance sub-district Malang	2-5 km 6-8 km	0-2 km 28 km	5-8 km 42 km
Land Resources			
*arable land	418	572	937
*irrigated land	118	454	58
*dry land	200	13	725
*home yards	100	105	154
Population			
*inhabitants	4,234	8,250	7,136
*households	981	1,887	1,429
*ethnic identities	Javanese	Javanese/Madurese	Madurese/Javanese
*density (p/km ²)	966	1,363	582
*landlessness (%)	56	54	16
*average farm-size	0.60	0.65	0.78
Economic activities			
*main feature	agriculture & commuting	agriculture & services	agriculture
*diversification	only central hamlet	only central hamlet	none
*land use <i>sawah</i>	rice and cane	cane, rice/ <i>palawija</i> ¹	rice and <i>palawija</i>
<i>tegal</i>	cane, rice and <i>palawija</i>	citrus and vegetables	like Dadapan ²
*livestock	few cattle	few cattle	cattle

The higher added-value produced in irrigated agriculture has resulted in income linkages,

¹ *Palawija* are secondary food crops such as maize, soybeans and sweet potatoes, which are grown on both *sawah* and *tegal* after the primary food crop, rice, has been harvested. In Pakong cassava and maize are the major *palawija* crops on dry-land.

² On dry-land holdings farmers cultivate *padi-gogo*, dry-land rice varieties.

that have stimulated off-farm activities.³ Additionally, farming families in Dadapan and Sidodadi, particularly those in the irrigated zone, have easier access to non-farm opportunities in the urbanized areas. The distances to urban centres are not large and roads make the irrigated areas more accessible. It is therefore not surprising that commuting and economic activities in the service sector were more important in the irrigated areas, while farm labour and circular or permanent migration were more prominent in the *tegal* area. A comparison of population densities shows that the population in the irrigated areas is more than double that of the dry-land areas.⁴

A comparison of the landlessness figures shows that these are lowest in the *tegal* area of Pakong. There landless households only have the option of working for a local patron. The households in the irrigated area as well as those in Dadapan's *tegal* zone have more economic options, a correlation that is confirmed by data about the off-farm involvements of all cane growers. In 1991 respectively 75, 80, and 52% of the cane growers in Dadapan, Sidodadi and Pakong were involved in off- and non-farm activities, either on a seasonal or a permanent basis. The wealthier cane growers were active in the better paying areas such as trade, transport and financial services, while the members of poorer households did wage labour and were petty traders.

The children of wealthier households in the core hamlet of Dadapan and Sidodadi received better education, and thus obtained better employment as civil servants, employees in private industrial or service firms, or as traders. Cane cultivating families in the *sawah* areas who succeed in getting better paying non-farm activities, engage cane workers and care takers on their cane farms.

The three villages represent the various waves of settlement and cane expansion in the Malang district. In Dadapan the long-established Javanese hamlets encroached on the low-volcanic and alluvial areas with land-use potentials for wet-rice production, their favoured agricultural activity. This required a central authority, coordinating land distribution, the operation and maintenance of the irrigation system and the implementation of the field operations.

The community of Sidodadi was founded during the early nineteenth century in the second best agricultural zone consisting of dry land on young alluvial soil. The community practised mainly dry-land agriculture and the village elite, owners of large holdings and village leaders applied a private land ownership system. Dry-land agriculture does not need a strict organization, like irrigated agriculture does and the ownership system allowed a skewed distribution of the land resources to develop. In Pakong the colonial government issued long-term leaseholds for waste land to foreign planters. When South Malang was an agricultural frontier area, many Madurese agricultural labourers moved into Sidodadi and Pakong. In Sidodadi local patrons involved them into their patron-client networks, while the foreign planters organized their estates hierarchically with many estate workers at the bottom of the pyramids.

Thus Javanese communities, with an even farm-size distribution and coordinated by a central authority, inhabited the irrigated zone in North Malang. In the fertile dry land

³ For example, during the 1970s farmers in the irrigated areas built permanent houses, while in the *tegal* area the semi-permanent houses are only now being replaced by permanent ones.

⁴ A specification for Dadapan shows that the irrigated zone (hamlets Tambaksari and Ngatisari) is more than twice as densely populated as the dry land zone (hamlet Baban). However, this picture is exaggerated because many farmers living in the former hamlets control land in the latter.

area of Central Malang, the owners of large landholdings and their multi-ethnic, vertically-oriented client networks constituted a more diffuse sociopolitical environment. In the less fertile dry lands of South Malang, foreigners coordinated and hierarchically organized estate communities. It is not surprising that the struggle for independence led to drastic changes in the latter sociopolitical environment and that local elites became involved in a long struggle for control over the estate's resources.

The prominence of local entrepreneurs and their patron-client networks in the settlers communities of Central Malang led to a linkage pattern for cane production that was different from rice-growing communities which lacked this category of economic actors in their sociopolitical environment. In Sidodadi local patrons already cultivated cane on *tegal* before the Malang sugar mills were constructed. They first produced brown-sugar and cuttings (*bibit*) and later also sold cane to the sugar mills to be refined. Foreign and later also indigenous brokers established the linkages between the patrons' production units with the markets for brown sugar and cuttings and with the outgrowers departments of the sugar mills. On the *sawah* area in Dadapan and Sidodadi the mills introduced mill-managed sugarcane production, using the village head's authority and the communal land ownership system to do so.

Local land tenure systems influenced the pattern of linkages that could be used. In the rice-growing communities the village head, who had the authority of the tax administration and the allocation of communal owned land, could lease the land to external economic actors and pay the rents minus the taxes due to the *gogol* holders, without much local opposition. Like Kano (1977:15) argues, the *gogolan* system was based on local tenure systems which had been redefined to meet the mill's land lease needs. The imposition of high land taxes and *corvee* labour services facilitated a 'voluntary' leasing by the *gogolan* holders. This was in contrast with the *yasan* tenure system for the dry-land holdings, where the village head encountered fierce opposition from the village elite when he restricted the landowners' rights. The village head had few means with which to facilitate a 'voluntary' lease, and the owners of large holdings favoured cane production above food crops because of the higher financial returns.

These considerations also explain their resistance to mill-managed cane production after independence. The cane producers and sugar traders in Sidodadi knew that brown sugar was an inferior product, compared to refined sugar. They therefore had to externalize cane processing, for which they depended on external linkages, but they wanted to restrict the mill to sugar production. In chapter four I showed that the leaders of the NU farmers' organization were willing to take shares in PG Krebbe Baru, but founded their outgrowers' organization to take advantage of new economic opportunities linked to outgrowers managed cane production.

This contrasted with the more politically oriented outgrowers' leaders in PG Kebon Agung's concession area. These perceived their organization as an institution for collective bargaining on behalf of the cane growers, and for coordination of activities between the outgrowers and the mill. They were indifferent to either internally or externally coordinated linkages in sugarcane production. In the former they wanted to bargain for the outgrowers' interests and in the latter for the cane workers' and landowners'. The leaders themselves were interested in the political prestige linked to their positions, and in the mill's commissions.

The government's policy for the expansion of cane production in the *tegal* areas in Dadapan and Pakong shows the pattern of interaction between internal and external forces of change. A coalition of mill and local government officials and some local patrons, for

a two year period created conditions for mill-managed cane production in the villages.⁵ They paid little attention to the opposition of smallholders to the land lease arrangement, and to the disruption of the smallholders' subsistence farms. Both internally and externally coordinated linkages were established to assure that the cane holdings were ratooned after the mill's lease arrangement had expired.⁶ Local and non-resident patrons either invested in cane production by leasing holdings from indebted smallholders who still lacked the technical and managerial capacities to cultivate cane. Only a teacher promoted cane production by local smallholders and arranged TRI credit for them. The village elites obstructed this initiative and favoured externally coordinated linkages, because of the financial advantages they stood to gain.

In all three villages local cane producers criticized externally coordinated production units, although perceptions of 'external' differed. The Javanese village elite in Dadapan saw units organized by a Chinese broker from Malang as external, but not those organized by the mill and the regional patrons from Pakisaji. They benefitted financially from both, and also had kinship relations with some of these patrons. The local commercial patrons and smallholders saw the mill and the regional entrepreneurs as external because these wanted to lease the land that the former cultivated. In Sidodadi the unit managed by the overseer of a local Chinese shop owner was seen as internal, but the cane belonging to a Chinese broker from Malang that was managed by a local patron, was external. Cane grown by the descendants of village elites who lived in the city of Malang, was perceived as internal. In Pakong, local Madurese patrons saw Javanese patrons from nearby villages as external. Where the boundary between internally and externally coordinated linkages was originally connected to mill-managed versus outgrowers-managed cane production, nowadays it is related to local producers versus non-resident patrons, although kinship relations and financial gain can change non-resident patrons into insiders.

In summary, the pattern of agro-industrial linkages was only a political issue for the owners of large land holdings in the dry-land areas. They externalized cane processing from their own farms and opposed externally coordinated linkages that limited their economic opportunities. They opposed direct involvement by the mill and foreign brokers in cane production, but encouraged these to invest in cane production and trade through them. In the long-established rice growing communities, local entrepreneurs were less common because the communal tenure system led to a more equal distribution of landholdings. Here the radical political parties recruited more local support, and to their leaders' view the central political issue was the distribution of the added-value between interest groups at the interface rather than the linkage pattern with the mill. For this reason externally coordinated linkages are still prominent in Dadapan, with mill-managed cane production in the *sawah* and broker-financed cane production in the *tegal* area. In Sidodadi externally coordinated linkages are insignificant because local cane producers opposed mill-managed cane production and successfully competed with non-resident entrepreneurs on the local land-tenure market. In Pakong externally coordinated linkages

⁵ National TRI programme regulations allowed the mills to lease dry land for maximally two seasons, long enough to cultivate one plant cane and one ratoon crop.

⁶ Internally and externally directed linkages are related to the organizational form of sugarcane cultivation. I use the concept 'internally directed linkage' when a local actor is responsible for the organizational and technical decisions and their financial consequences, and 'externally directed linkage' when an actor in a supra-local production hierarchy has those responsibilities.

emerged after the leading cane entrepreneur died, his heirs failed to continue the enterprise, and local patrons failed to lease the heirs' cane holdings. Thus the development of local entrepreneurship and price competition on the land market can replace externally coordinated linkages by internally coordinated ones. However, the distinction between both patterns of linkages is fluid and intersected by kinship ties and commercial interests. In the following section I compare the relationships between the pattern of linkages and the types of production units in the three villages.

8.2 Linkages and the Organization of Cane Production

In all three villages the cane area gradually increased as first patrons expanded their cane holdings and later local smallholders shifted from food crop to cane production. This latter shift has gone furthest in Sidodadi, where land owners in 1991 planted 80.7% of the land with cane. Here the agro-ecological conditions are better suited to cane than to irrigated rice. This contrasts with the agro-ecological conditions of irrigated land in Dadapan, where on their clayey holdings smallholders find rice and food crop production more profitable than cane.

Table 8.2 Quantitative data on cane production in the villages in 1991

Characteristics cane production	Dadapan	Sidodadi	Pakong
* % farming households cultivating cane	19.0	33.2	22.5
* % land planted with cane	45.5 ⁷	80.7	42.3
* % cane land controlled non-residents	44.9	20.3	13.2
* average farm size non-cane growers	0.47	0.22	0.43
* average farm size cane growers	1.45	1.30	1.55

Source: Village administration and field data.

Agro-ecological conditions and the price of cane relative to food crops also make cane production more attractive in the dry land areas. Smallholders with dry land holdings in Dadapan and Pakong slowly follow the patrons in taking up cane production. Table 8.2 shows that in all three villages only a minority of the farming households are involved in cane production. These are mainly the owners of larger holdings, smallholders still preferring subsistence food crop over cane production.

A comparison of the average farm size in the three village shows that farms are smallest in Dadapan (0.49 ha), followed by Sidodadi (0.87 ha), and Pakong (1.13 ha). The cane producers in all three villages have the larger farms, controlling on the average 1.45, 1.30 and 1.55 ha respectively in Dadapan, Sidodadi and Pakong. Figure 8.2 compares the farm-size distribution of the cane producers in the three villages. This distribution is most skewed in Pakong, followed by Dadapan and Sidodadi. Of the outgrowers in the *sawah* areas in Dadapan and Sidodadi, a relatively large proportion are smallholders. In Sidodadi also, many local patrons are involved in cane production. However, in the *tegal* areas in Dadapan and Pakong a limited number of local and non-resident patrons cultivate large cane areas.

⁷ In Dadapan cane was grown on 20% of the irrigated and 65% of the dry land.

Table 8.3 Proportion of production units and average farm-size per category of cane growers in 1991

Types of production units	% of production units/ average farm-size (ha)		
	Dadapan	Sidodadi	Pakong
* smallholder family farms	27.6 / 0.39	18.3 / 0.24	58.5 / 0.49
* smallholder farms	54.3 / 0.94	62.5 / 0.76	35.1 / 1.44
* overseer production units	-	2.9 / 3.36	-
* mill overseer production units	2.9 / 6.66	-	-
* local patrons	5.8 / 5.32	14.4 / 4.02	4.4 / 10.8
* regional patrons	9.7 / 4.34	1.9 / 7.58	2 / 10.1

Source: Field data

These various sizes of the sugarcane production units raise the question about their organizational form. Four types of production units were found in all three villages: these are the smallholder family farm, the smallholder farm, the local patron, and the regional patron. A fifth type, the independent overseer production unit, was only found in Sidodadi, because of the relative prominence of absentee landlords there. Mill overseer production units were only operative in Dadapan.

The smallholder family farms, smallholder farms, local patron enterprises and overseer production units are internally coordinated units, managed by local cane growers who are responsible for the technical aspects of cane production, and the first three types also for the financial ones. In all three villages more than 80% of the units are of the two smallholder types. In Pakong the smallholder family farm is numerically dominant. This contrasts with Dadapan and Sidodadi, where the smallholder farm is so. In these two villages, cane growers more easily have access to non-farm employment which pays better than cane work does. When they are engaged in non-farm activities, they easily recruit wage labourers. In Sidodadi the patron enterprise type is quite prominent (16.3%). The overseer production unit operates, because resident and non-resident landowners involved in non-farm activities delegate cane cultivation to skilled overseers. In contrast to Dadapan and Pakong, regional patrons in Sidodadi are mainly residents.

Externally coordinated production is almost absent in Sidodadi and relatively prominent in Dadapan. For these units non-resident cane growers are technically and financially responsible for production of cane. However, they delegate the responsibility for the labour process to a caretaker. In Dadapan the mill coordinated three overseer production units, and ten regional patrons each coordinated one. In Pakong five non-resident patrons coordinated one operational production unit. In Sidodadi two brokers from the city of Malang delegated the responsibility for the labour process to their local agents. Like the mill, these non-resident patrons had arrangements with foremen and overseers for the organization of the labour process, but in contrast to the independent overseers these all followed technical instructions from their employer. In Dadapan and Pakong, respectively 12.6% and 2% of the production units were externally coordinated in 1991. In Dadapan these units cultivated 36.8% of the cane in the village, and in Pakong only 13.1%.

The TRI groups are central, intermediate forms of organization beyond the internally coordinated production units. For this externally imposed institution, the local rules of organization and leadership, and consequently the patterns of interaction differed widely

between and even within the three villages.

In all three villages the village heads initially appointed the leaders using their relatives or clients (*anak buah*) and through them coordinated the administration of the credit and marketing relations with the mill. When this nepotism led to a deterioration of the groups' services and the occurrence of bad debts, different interaction patterns emerged at the village level and in the relations with supra-local hierarchies.

In contrast to Dadapan, Pakong and Sidodadi village heads encountered organizational rules from supra-local levels. In Pakong the cooperative and the *camat* excluded leaders of indebted TRI groups from receiving new credit and claimed the right to exert influence on the recruitment of new leaders. In Sidodadi the mill leadership reorganized the TRI groups and organized the election of new chairmen, in which only land owners were allowed to participate. In Dadapan the village head reorganized the TRI group and again appointed two clients, in consultation with the *camat* and mill officials.

In the *tegal* areas, local patrons were appointed as TRI group leaders, but in the irrigated areas smallholders were chosen. In Pakong the cooperative and the village head recruited local cane entrepreneurs, who became personally responsible for bad loans. In Dadapan, local patrons in the dry-land hamlet were allowed to form a new TRI group, and the village head appointed his cousin to coordinate the irrigated area as the local patrons were less interested in leading a TRI group there, because of their private activities. These leaders were supported by a coalition of either the village head and smallholders, or of the local patrons and smallholders.

In Sidodadi and Dadapan, the elections of TRI group leaders as well as village heads led to a new pattern of interaction in these groups. The different factions in the TRI groups in Sidodadi led to conflicts about the quality of the groups' services, and about the policies proposed by different factions in the interfaces with the supra-local level. During the campaign for the election of the village heads of in Sidodadi and Dadapan, the different factions made an issue of the manipulation of TRI funds. In both villages candidates who campaigned for better public services, including those of the TRI groups, were elected. Especially in Dadapan this defeat led to conflicts in the group led by the former village head's cousin. The old forms of nepotism and of leaders' privileges led to conflicts in the group, and the new village head tried to replace her predecessor's cousin by one of the leaders of her own faction.

The TRI groups in the irrigated zone evolved into what Bailey (1969) has called contract groups, while those in the dry-land zone remained as patron-client networks. The elections of group leaders, and indirectly also of village heads, led to more specialized leadership and specialized contract groups. The factions have a contract with the leaders to support them in return for better services for this group. In the dry-land area there were no elections thus the leaders did not have to recruit supporters. They were entrepreneurs with connections to the local and regional elites, but had no special commitments to the members other than a kin or patron-client relationship.

Concerning the relationship between ecological conditions, agrarian structure and production organization, it can be concluded that in the *tegal* area, entrepreneurs dominate both cane production and the outgrowers organization. Externally coordinated production units were prominent in Dadapan: the mill overseer and the regional patron coordinated units that were administratively and technically coordinated in a hierarchical way, while the labour process was coordinated through care takers' networks. In the other two villages almost only internally coordinated units operated, the highest proportion of smallholder family farms being in Pakong. A limited number of local patrons cultivated

large cane holdings, particularly in Sidodadi and Pakong. In the *tegal* area they also dominated the TRI groups, but in the irrigated areas they helped capable smallholders into leadership positions. Nepotism by village heads led to self-serving policies and bad debts, especially when supra-local institutions failed to strictly implement national regulations. In South Malang, TRI chairmen holding bad debts were replaced by local entrepreneurs, who only had contracts with local and regional elites, but not with the cane owners. In Sidodadi the mill restructured the TRI groups through elections, which resulted in factions and conflicts, and lead to special contracts between leaders and cane growers about services. In Dadapan such encounters to restructure the organizational rules of the TRI group emerged when a new well-educated village head tried to appoint her supporters to public positions. As a consequence of these different patterns of interaction in the TRI groups, those in the irrigated area functioned as interest groups, and those in the dry-land areas as patron-client networks.

8.3 Linkages and Production Technology

This section analyzes the relation between production strategies of different categories of production units, linkage patterns and agro-ecological conditions.

One big difference between mill and outgrowers managed production units is that the mill tries to maximize sugar yields and the outgrowers the cane yields. For the mill, the interface between cane and sugar production is coordinated by the mill's internal hierarchy of authority. For outgrowers the interface is formed by the TRI institutional structure, determining an average sugar content for each agro-ecological zone, which is gradually increased during the crushing season. The outgrowers have little influence over the determination of the sugar content, and thus they concentrate on the cane yield, trying to postpone the delivery of their cane.

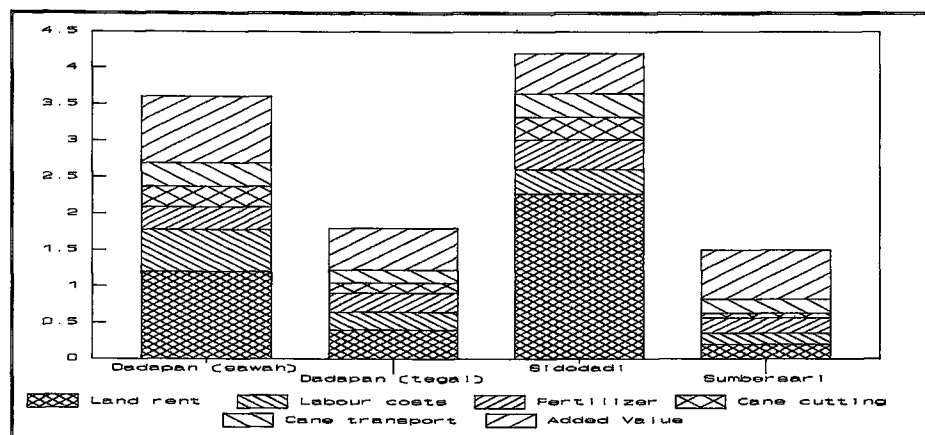
The mill rents *sawah* land where it cultivates Reynoso cane. The mill's senior manager decides on the production technology and gives technical orders to the overseers through his supervisors. Production expenses for Reynoso cane are considerably higher than those for ratoon cane on irrigated and dry land (see Figure 8.1). However, the sugar yields are much higher as well and the mill gets all of it. In addition, the mill argues that cane from their own estate is more profitable for them than buying TRB cane in another district is, as PG Kreet Baru did in 1991.⁸ The estate cane results in extra returns and makes it possible to correct irregularities in the cane supply.

In the other type of externally coordinated linkages, regional patrons and brokers invest in cane production. These commercial entrepreneurs tried to obtain optimum returns on their invested capital. When the rents and labour costs in the irrigated area increased, they changed to leasing dry land. A comparison of the yields and the production expenses confirms their argument about the opportunity costs of their capital. They also invest more in the cane trade when the returns are higher than those on cane production. In Dadapan, the regional entrepreneurs do not rejuvenate the old ratoon crops because they lack tenure security. They only carry out the essential field operations and economize on

⁸ During the first month of the crushing season PG Kreet Baru had problems obtaining sufficient cane and therefore bought large amounts of TRB cane in the procurement areas of the Kediri mills. It bought the cane for Rp. 3,200 and had to pay an extra-transport subsidy of Rp. 1,000 per 100 kg cane.

all lighter operations, which are mainly women's work.

Figure 8.1 Comparison of the cane yields and production expenses (x Rp. 1,000,000) in the three villages and two ecological zones in 1991.⁹



Source: Field data

In contrast to the externally coordinated linkages, the local cane growers also cultivate other crops. In all three villages, patrons experiment with cash crops like citrus and vegetables. Many patrons, and particularly smallholders, plant maize among their young cane and subsistence food crops on small and fertile holdings. In Sidodadi they planted food crops between a ratoon cane and a successive plant cane crop.

In the irrigated area, patrons and smallholders used more capital intensive technologies than their colleagues in the dry land area did. First, they rejuvenated their ratoon cane more frequently. When yields of ratoon cane declined drastically they either grew food crops for a season and then planted a new cane crop, or they planted a new crop on the ridges of the harvested ratoon cane. Second, they carried out all field operations that in their experience have a positive effect on the cane yield.¹⁰

Poor smallholders and some entrepreneurs in the sawah area were an exception. The former skipped operations because of resource constraints¹¹, and the latter copied the brokers' strategy and economized on production expenses in order to invest in trade, especially in cane trade. On *tegal* land in Dadapan and Pakong, the majority of the

⁹ For the calculation of the gross production value the average yields of the previous paragraph and a standard cane price of Rp. 3,000 were used. The cane price corresponded to a sugar content of 6.8%, which was common during the first months of the crushing season. The gross production values varied more for the months August and September, when the sugar content was higher.

¹⁰ On the clay soils in Dadapan they used the recommended amounts of nitrogen fertilizers, but on the lighter soils in Sidodadi they applied up to three times the recommended amount.

¹¹ Because of capital constraints they often had to work as casual labourers and therefore tended their own cane in the afternoon or when they failed to obtain off-farm jobs.

smallholders and lessees had old ratoon cane because they considered the cost of replanting and the risks involved to be too high.

The patrons have close connections with the mills' field staff. They and the smallholders in the *sawah* area experiment with new production techniques, implementing field operations that have a positive impact on ratoon cane yields, like using filter mud, transplanting cane, cutting old rootstocks, and beside N, also applying P and K fertilizer. They even developed new techniques, like the *wali lobang* system, to rejuvenate their cane crop.

The cane yields of the internally coordinated production units varied widely. The cane producers' resources, their access to technical information, and their investment strategies were important factors influencing the technology applied.¹² This technology, and in the dry-land zones the rainfall, influenced the cane yields.

In 1991 the cane yields in the irrigated zone were up to 100% higher than those in the *tegal* zone. On *sawah* the cane yields in Dadapan varied between 80 and 120 tons per hectare, and those in Sidodadi between 90 and 160 tons. The poorer households and the entrepreneurs obtained the yields in the lower range and well-experienced smallholders and patrons those in the upper range. On *tegal* the yields in Dadapan varied between 40 and 70 tons per hectare; and those in Pakong between as low as 20 to 60 tons, due to erratic rainfall.

In summary, the two types of externally coordinated production units applied the most intensive as well as extensive production techniques. Where the mill aimed for technical efficiency in cane production, regional entrepreneurs opted for economic efficiency. The mill produces Reynoso cane in the irrigated area using labour intensive techniques, whereas the entrepreneurs grow ratoon cane in the dry-land area using labour extensive techniques. The internally coordinated production units used various labour intensive ratoon production systems in the irrigated area and capital extensive ratoon production systems in the dry land area. The actual available land and labour resources, access to capital and technical information, and specific investment strategies explain the considerable variations in cane yields. The erratic rainfall in 1991 shows that the risks in dry-land cane production are high compared to those in the irrigated area. Smallholders and local patrons experimented with more intensive production techniques for ratoon cane in order to increase their cane yield. The former had the know-how and the labour to get the highest yields from the limited land resources they controlled. The latter had the ambition to experiment with new techniques and to obtain highest yields in the village. The smallholders in the *tegal* area had the labour power but lacked the connections through which to obtain the know-how and the capital to experiment with these new technologies.

8.4 Linkages and the Land Tenure and Labour Relations

In section 8.2 the average size of the cane growers' farms in the three villages were compared. Figure 8.2 illustrates that the farm-sizes in Pakong and Dadapan are unevenly distributed. A comparison of agro-ecological conditions shows that this uneven distribu-

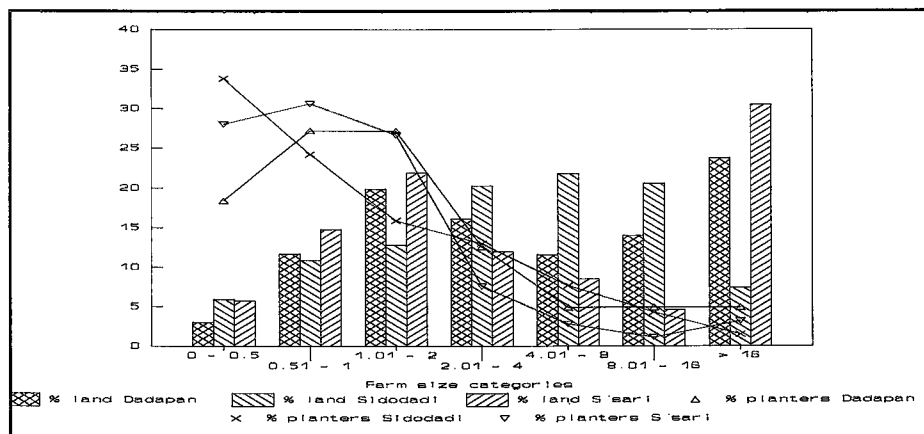
¹² Beside the combination of available land and family labour, which is important to smallholders, capital can be invested in different ways. It enables them to invest in the intensification of the ongoing production cycles or in the enlargement of the scale of forthcoming production cycles.

tion is greatest in the *tegal* zones of Pakong and Dadapan, and least in Dadapan's irrigated zone.¹³ The irrigated former *tegal* area in Sidodadi is located between these two extremes, with patrons having smaller holdings than those in the *tegal* areas do.

Externally coordinated linkages increasingly have to compete on the land market with local cane producers. The mill leases irrigated land, allegedly for the production of cuttings, and fixes one-sided the rents using as a general rule the value of 2000 kg sugar. In addition, the mill enlists the formal local hierarchy as intermediaries to coordinate the landowners, instead of negotiating with them individually. The regional patrons negotiate with individual landowners, but use their local agents' networks to obtain contact with and background information on potential lessors. The local cane producers negotiated directly with lessors through personal relations. The financial resources give externally coordinated units an advantage in the local land tenure market, although the local cane producers are favoured by their neighbourhood and kinship ties with the lessors.

Land tenure relations decrease the effect of the disparity in the farm-size distribution in the irrigated area and increased them in the *tegal* area. Smallholders in Sidodadi compete successfully for irrigated land through share-tenancy, overseers contracts, and fixed rent arrangements. These factors, along with their improved access to TRI credit, enable them to offer better lease terms. As a consequence, entrepreneurs leased land in more isolated *tegal* areas, where rents were still low. Through these strategies smallholders have reduced the inequality in the farm size distribution in the *sawah* area. In the *tegal* area smallholders lacked the capital to operate as independent cane producers and thus local and regional entrepreneurs took up cane production when the mill's land lease contracts expired. Their access to cash enabled them to lease large holdings by providing indebted landowners with cash loans.

Figure 8.2 Farm-size distribution of sugarcane producers in the three villages in 1991



Source: Author's census of cane producers

¹³ The mill's estate was an atypical case in Dadapan's irrigated area. Of the outgrowers, one person controlled 1.5 ha, six persons one hectare, five others 0.5 hectare, and two 0.25 ha.

As a result of this competition, the rents varied for each land-use category. They were highest for well-irrigated holdings, followed by poorly irrigated ones, fertile dry land and infertile dry land holdings (see Table 8.4). In 1991 smallholders and patrons in Sidodadi paid the highest rents for irrigated land. The mill paid considerable lower rents for irrigated land in Dadapan because there still was no competition. The land rents for *tegal* in Dadapan and Pakong did not differ much. Currently smallholders in these villages are developing strategies to compete with outsiders and patrons. TRI credit, however, is essential here.

Table 8.4 Comparison of rents and labour tariffs paid in the three villages during the 1990/1991 season.

Rents and labour tariffs	Dadapan	Sidodadi	Pakong
* Rent for <i>sawah</i> (per <i>leng</i>)	Rp. 1,318	Rp. 2,500	-
* Rent for <i>tegal</i> (per <i>leng</i>)	Rp. 165-550	-	Rp. 110-550
* Daily wage women (4-hours)	Rp. 750	Rp. 600-750	Rp. 500
* Daily wage men (8-hours)	Rp. 1,750	Rp. 1500-2000	Rp. 1,500
* Ridging (per <i>leng</i>)	Rp. 40-75	Rp. 40-60	Rp. 33/50
* Cutting (100 kg TRI/TRB)	Rp. 160/200	Rp. 125/175	Rp. 115/150

Source: Author's census of cane producers

In all three villages the land markets are dominated by the patrons. It is especially the local patrons who buy land offered for sale outside the kin group.¹⁴ Smallholders tried to buy small holdings from owners within their kin group. Regional patrons hesitated to buy land, because it was less attractive as an investment than land tenure arrangements, cane trade, or agro-industries were.¹⁵ In addition, they feared political opposition from local elites when they, as outsiders, accumulated land in these villages.

Not surprisingly, the externally coordinated linkages experienced more tensions in land tenure relations than internal ones did. The local land markets frustrated smallholders in Dadapan and Pakong, who had to either lease their holdings, or failed to compete with local, and especially regional entrepreneurs. It was and still is common for lessors, including the village officials, to try to trick them in land lease deals. For this reason, regional entrepreneurs have relations with well-informed and reliable local agents, in which they differed from the mill, which engaged the Dadapan village head as an intermediary. This person used her authority to persuade the land owners to participate in a collective land lease deal for *sawah* land. Many land owners opposed this deal on political and economic grounds.¹⁶ Since the mill had fixed the rents, the village head

¹⁴ It was a common rule that owners first offered their land for sales to family members. When these were not interested it could be offered to a wider market. However, many of the holdings offered for sale were already tied to long-term leases or to *gadai* deals, which made it likely that they would be bought by the lessee.

¹⁵ In 1991 and 1992 two brokers invested capital in a chips factory and a tapioca factory, where they processed respectively hybrid maize and cassava.

¹⁶ 30 years ago their parents' actions had ended the coercive land tenure arrangements for mill-managed cane production, and they felt it as a political defeat when these arrangements were restored.

used local development and the national development ideology to persuade the landowners to accept the mill's lease deal.

In section 8.2 it was shown that the externally coordinated linkages delegated responsibility for the organization of the labour process to care takers. These overseers and foremen had their own networks of cane workers; those of the mill's overseers were more loosely organized than those of the regional entrepreneurs' care takers. The entrepreneurs had their permanent teams which had for several years been engaged in their employers' cultivation and harvesting activities. In this they differed from the mill's overseers, whom the mill moved to new villages each year and who recruited labourers seasonally. The local patrons had their own tightly organized patron-client networks of labourers, while the smallholders recruited labourers using their kinship and neighbourhood networks.

In 1991, the mill and cooperative delegated the organization of the cane harvest to overseers in Dadapan and Sidodadi, and to TRI group leaders in Pakong. The overseers recruited their own teams of cane workers, mainly from neighbouring villages, while the patrons formed teams from their client cane workers. The harvesting of the cane is closely associated with the cane's marketing linkages, and thus only internal organizational aspects will be covered in this section.

I showed in section 8.3 that the mill used the most labour intensive production technology for Reynoso cane on *sawah*, while the entrepreneurs and poor smallholders used the most labour extensive production technology for ratoon cane on *tegal*. The local patrons and smallholders cultivating cane on irrigated land used more labour intensive techniques than their colleagues on dry land did for ratoon cane.

A comparison of labour costs, like that in Figure 8.1, shows that in 1991 labour costs on irrigated land were higher than on *tegal*. This resulted from the intensity of labour, the techniques used, but also from the different tariffs for labour. Table 8.5 shows some of the daily wages and piece rates paid in 1991, which varied according to the different types of production units. The tariffs were higher in the more urban hamlets in Dadapan and Sidodadi where the wage workers also have non-farm work options and the youth migrates to the city. Although the outgrowers as rule did not have to approach their colleagues' cane workers before they finished their labour contracts, off-farm opportunities have introduced a primitive labour market there. This contrasts with Pakong, where an oligarchy of cane patrons maintained their patron-client networks.

The entrepreneurs and their harvest overseers in all three villages economized on labour expenses by using piece rates and lump-sum labour contracts on which they made advance payments. In this they differed from patrons, who worked together with their cane workers, smallholders, and the mill's overseers. They liked to pay daily wages and only used piece rate or lump-sum labour contracts for field operations that needed no supervision. The entrepreneurs paid more attention to the labour costs than to the quality of the labour. Their client cane workers accepted lower wages and piece rates contracts in exchange for job security and advance payments on labour contracts. This resulted in what Breman (1995) has called 'neo-bondage'.

However, the mill's and the cooperative's overseers continuously negotiated with their cane cutters during the crushing season. On top of the low basic tariff for cane cutting, the cane cutters in Dadapan and Sidodadi demanded extra hardship bonuses per plot. When their demands were not met, they organized slow-down actions, reneged on labour contracts, or ignored the quality of their cutting. The overseers operated as intermediaries between the cane owners and the cane workers, and their failure to reach a compromise also affected the owner and the overseer. Single stranded relationships or temporary

labour contracts between overseers and cane cutters during the harvest period were fragile, especially when the demand for experienced cane cutters increased.

In the tighter patron-client networks of the local patrons, the pattern of interactions was more symbolic and indirect. These relationships were multi-stranded, also involving moral aspects such as the patron's social obligation to care for his client cane workers. Patrons built their prestige and assured themselves of their labourers' loyalty by assisting them in solving personal problems and giving grants, presents and other facilities. Greedy and commercial patrons tried to find a trade-off between economizing on labour expenses and maintaining their prestige. Whenever the central government increased the price of sugar, the cane workers pleaded for an adjustment in their wages and piece rates. Scott (1985:xvi) describes how the client workers showed their discontent about negative reactions to their pleas for better rewards by slow-down actions, nick naming, simulating accidents and stealing fertilizer or produce. In the Malang area, clients were more likely to look for an intermediate, such as a local religious leader, to discuss their demands with the patron.

Those using the externally coordinated linkages tried to limit claims based on traditional models of social obligations by using their caretakers as labour brokers, and living outside the village. They delegated the responsibility for the relationship with to cane workers to their caretakers and limited their contact with the teams to him. However, a care taker can, with or without the cooperation of his team members, also try to cheat the patron, for example by manipulating cane categories.

For this reason, externally coordinated production units need special arrangements to safeguard their cane and to prevent being cheated by their employees. Their caretakers usually check to see that the cane is not damaged by animals or people.¹⁷ In addition they have supervisors, relatives or local middlemen who check their caretakers and cane workers during fraud sensitive operations, like the application of fertilizer and the transport of the cane.¹⁸ Thus, only for smallholders' TRIK cane production did separate operational units carry out the tending and harvesting activities. The cane harvest was the peak labour period in all three villages when the overseers of the TRI institutions and the patrons competed for experienced cane workers. Where the patrons organized the cane cutting through their teams of permanent cane workers, the overseers tried to tie cane cutters from isolated rural areas to themselves as their seasonal labourers. Since these overseers had single-stranded relations with a large number of cane cutters, who easily communicated with each other and who were well aware of local labour market forces, it is not amazing that it was especially they who experienced problems with labour.

Mechanisms to prevent tension in labour relationships covered both organizational and relational aspects. The externally coordinated linkages made it financially attractive to

¹⁷ In Sidodadi and Pakong cattle owners cut green cane leaves for cattle fodder, and in Dadapan and Sidodadi petty thefts of mature cane occurred. During the 1991 season about ten hectares cane on dry-land burned because a cane leaf fire got out of control. In Sidodadi several holdings burned, in the owners' opinion as a result of ashes that the mill spread along the railway lines. Burned cane was harvested immediately to prevent sucrose loss.

¹⁸ During the 1991 season, cane workers in all villages were suspected of stealing fertilizer. During the 1990 season a patron's overseer in Dadapan manipulated the ownership status of three loads of cane. In Sidodadi the cooperatives employed watchmen who followed the locomotives moving members' cane until it had passed the mill's scale.

their caretakers to organize the labour process themselves through personal networks. In this way the responsibility for social care arrangements was also transferred to the caretaker. The mill's overseers moved to different villages each year, and since they worked with seasonal labour contracts, multi-stranded or patron-clients relations did not develop. Often the regional patrons' caretakers were not much wealthier than the cane workers, and thus these cane workers continued to rely on their kinship and neighbourhood networks for social security.

The smallholders and independent overseers paid their workers better and the differences in wealth between them and their labourers were not very large. These smallholders, overseers and their cane workers also relied on their kinship and neighbourhood networks for social security.

The other category of internally coordinated production units, the local patrons in the isolated *tegal* areas of Pakong and Dadapan, prevented labour conflicts through multi-stranded relationships. Beside the labour relations, the employers had also kinship, land-tenure, credit and in Pakong even cattle share-tenancy arrangements. In these patron-client networks the mutual obligations and rights shaped the relationship. Especially in Sidodadi the casualization of labour relations transform the multi-stranded into single-stranded labour relations. The redistributive mechanisms which used to redress sharp differences in wealth also have eroded in the isolated *tegal* areas. Especially there, but also in the more rural hamlets of Sidodadi, the differences in wealth and lifestyle between patrons and clients are increasing.¹⁹

One strategy used by some local patrons to avoid labour problems was to recruit cane workers from outside the village. The geographic distance enabled them to deny the workers' pleas without affecting their prestige within the community. Another strategy that was used particularly in Sidodadi and Pakong, was to go on the hajj pilgrimage and use Islamic perceptions of the patron-client relationship to replace the Javanese ones. In this way the local scholars (*santri*) could also become intermediaries between the labourers and the hajji entrepreneurs in dealing with the moral aspects of economic behaviour.²⁰

In summary, land tenure relations were of central importance for the externally coordinated linkages and therefore the persons involved in them engaged the village elite to act as their intermediaries. Social networks and cash were essential in arranging transactions on the local land markets. The mill also included a hierarchical element by fixing a maximum rent and involving the local administration. Local entrepreneurs were in the best position to acquire land, and when there were too few of them, regional entrepreneurs filled the gap. However, when the smallholders solved their cash problems, as they did in Sidodadi through share tenure arrangements and TRI credit, they were able to compete with the entrepreneurs. These then moved to areas where rents and wages

¹⁹ The patrons expanded their economic activities, built modern houses, bought private means of transportation, like trucks, sedan cars and motor cycles, and were the first to buy a television set. In the more rural hamlets the patrons were the only persons who could help smallholders and landless labourers in case of emergencies.

²⁰ The hajji entrepreneurs, on basis of their status as hajji, claimed a moral superiority in economic behaviour in relation to forces of supply and demand in the labour markets. Their argument was that they generated extra labour opportunities for poor households in the village and thereby contributed to the eradication of rural poverty.

were still low: the isolated dry land areas. For the labour relations it may be concluded that those involved in externally coordinate linkages delegate the responsibility for labour arrangements to their caretakers and with them the responsibility for social care arrangements as well. These local caretakers, like the smallholders, recruit their labourers through kinship and neighbourhood networks, which also provide for social arrangements. In Dadapan and Sidodadi the contours of a local labour market emerged because off-farm opportunities provided alternatives. Here single-stranded labour relationships became more prominent and replaced multi-stranded ones. The remuneration of labour is the main interaction in the interface of the former relationships and the pattern of this interaction is relatively open. Mutual obligations and rights involved in a patron-client networks shape the encounter in the latter, but the pattern of interaction is indirect and symbolic. These patron-client networks still prevail in rural hamlets, particularly in Pakong. There disparities of wealth between patrons and cane workers increased sharply, and many patrons are hajji, which has made Islamic moral aspects a factor in the patron-client networks.

8.5 Linkages and Credit/Marketing Relations

Having discussed land and labour relations, we now turn to credit and marketing ones. Earlier it was shown that the organization of the cane harvest is tied to marketing relations, which are in turn connected with credit relations. To compare the organization of these two relations, I will analyze the pattern of interaction of their coordination.

The externally coordinated production units obtained their working capital through loans from commercial banks. The internally coordinated production units relied heavily on the formal TRI credit programme with subsidized credit. In Sidodadi, however, a growing number of patrons financed their operations with private capital or with loans from banks in the village. In Dadapan and Pakong the regional entrepreneurs were interested in subsidized local TRI funds as well.

The sub-district cooperatives were formally responsible for the TRI credit. However, at the village level these cooperatives relied on the TRI group leaders and village heads for its administration and supervision. This involved considerable risks of bad loans and therefore the TRI institutions at the supra-local level, government agencies, mills and cooperatives, had to apply strict rules and in addition limited the TRI funds for the *tegal* area. For example, the TRI group leaders and village heads selected the participants in the TRI credit programme, after which the mills' field staff and local government officials carried out field checks.

However, the rules were strictly observed only in Sidodadi where they had been renegotiated after the debt debacle of 1989. For the irrigated area the TRI institutions did not restrict the TRI funds: in Sidodadi in 1991 there more credit was available than was asked for. In Sidodadi cane growers have easier access to the sub-district offices of various banks. This contrasts with Dadapan and Pakong, where there was only the cooperative which operated as a branch bank. In the latter village, the TRI funds were restricted and the TRI group leaders also used them for cane they themselves cultivated outside their own villages. The regional patrons used the TRI funds of groups they lead in other villages, and in Dadapan they also manipulated funds belonging to the local TRI groups. Officials of the mills, cooperatives and the local government tolerated these practices when they did their field checks, in exchange for 'tips' (*uang makan* or *uang*

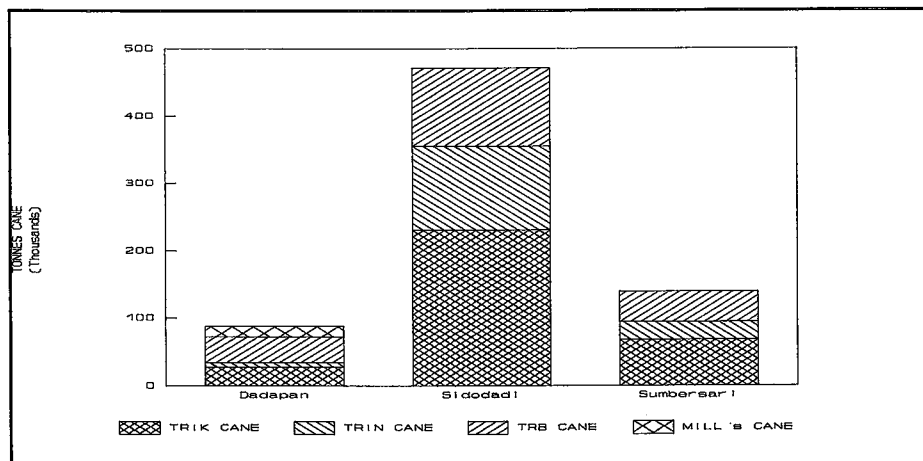
rokok; i.e. bribes).

The cooperatives imposed trading restrictions on cane grown with TRI credit which was the reason the patrons in Sidodadi neglected the TRI these funds. They opened savings accounts or applied for credit at the BRI and BCA bank with offices in the village. Also, all leading cane brokers in the Malang district have agents in Sidodadi who supply loans. This differs from Dadapan and Pakong, where the brokers' agents lived in the sub-district centres. There, only the local patrons, many of whom led TRI groups, obtained loans from the cooperative and the brokers, which they repaid with TRB cane. For this reason the TRI funds were important, and the patrons there were forced to create strategies with which to get around the cooperative's formal marketing regulation.

Not only the cooperative imposed trading restrictions on the cane, but the brokers did so as well, using various arrangements to lay claims on its marketing. The commercial banks provided credit to an enterprise, not to cane. The mill automatically processes its own cane itself, and because there is no linkage it is considered TS cane. The brokers also remain free to sell their cane as long they observe the TRI institutions' official trade policies at the district level. Thus, the internally coordinated production units are largely limited to selling their cane through the official TRI marketing channel, and the externally coordinated production units are limited by the organizational hierarchy (the mill) or by official regional cane trade policies.

A comparison of the volumes shows that in 1991 the largest amount of cane was produced in Sidodadi. Here the largest cane area was planted and the highest yields per hectare were obtained. In Pakong the cane area was large but the yields were low, and in Dadapan the cane area was small although the yields were relatively high.

Figure 8.3 Comparison of the cane marketing channels in the three villages in 1991 (x 1000 tons cane)



Source: TRI groups and estimation of the author

Although the major share of the cane produced in the three villages was TRIK cane, a larger portion of it was sold as TRIN/TRB cane. In 1991 the mill obtained 17.6% of the cane produced in Dadapan from its own estate. For outgrowers cane, the TRI institutions

provided TRI credit for 55.6%, 71.7% and 66% of the area in respectively Dadapan, Sidodadi and Pakong. However, the TRI groups respectively supplied the mill only 41.5%, 48.9% and 55.4% of the outgrowers' cane as TRIK cane. Additionally, the groups sold 30.2%, 26.4% and 27.7% of the cane as TRIN cane. Of this TRIK and TRIN cane, non-local TRI groups in Dadapan and Pakong supplied respectively 20% and 17.7%, which was the result of allocating credit to TRI chairmen rather than to demarcated cane areas. The remaining outgrowers cane was traded through TRB cane brokers' networks; this was respectively 28.3%, 24.7%, and 26.8%.²¹

The supra-local TRI institutions pressured the TRI group leaders and village heads to strictly implement the TRIK cane trade regulations. Local government authorities also put the TRI group leaders under pressure to persuade TRI debtors to observe marketing regulations. On the other hand, these TRI group leaders, who had been voted into office by a coalition of patrons and smallholders, had to pay attention to grievances concerning the public services of TRI institutions and the mill's marketing policies. In the *tegal* areas of Dadapan and Pakong, the TRI group leaders were not elected and therefore paid little attention to credit takers' opinions. Thus, democratically elected TRI chairmen had to mediate between interest groups at the local and supra-local levels in contrast to those appointed along authoritarian lines.

Where cane patrons in Sidodadi ignored the TRI credit to prevent any claims on their cane by the mill, an increasing number of cane growers in the three villages tried to get around the TRI marketing regulations. They wanted to harvest their cane during the months that the sugar content and cane prices were highest, rather than at the mill's convenience. As we have seen, in Sidodadi a large number of patrons did not take TRI credit, and in Pakong and Dadapan the local and regional patrons and the smallholders tried to obtain subsidized TRI funds. However, these patrons developed a strategy of delivering only a minimal amount of their cane as TRIK cane. The TRI chairmen and their relatives in Dadapan and Pakong themselves supplied a small amount of the cane as TRIK cane. The remainder they either supplied as TRIN cane to the mill, or sold it to TRB cane traders. Smallholders tried to copy these strategies and approached the TRI group leaders and the village heads to obtain their consent for this manipulation of the cane categories, in exchange for compensations. If they were refused, the cane growers could sell a portion of their cane to TRB cane traders and leave the remainder for the TRI groups. Thus, for the internally coordinated production units, the credit-marketing linkage formed the interface with the agro-industry, in which they had to negotiate with formal leaders through informal networks. The figures shown above illustrate the fact that the rural officials did not obey the administrative regulations for the marketing of their own cane, and were also not inclined to prevent silent forms of resistance by TRI debtors.

Especially in Sidodadi, but also in the other two villages, extended networks of cane brokers operated, who have long established their cane producing, money-lending, and cane trade networks by carefully selecting their agents and borrowers. The former they trained and supervised in money lending and cane trade activities through network marketing. Some of their agents, like hajji Sukri in Pakisaji, have established a second level by creating their own network of agents. The brokers gradually transferred more responsibilities and trading capital to their regional agents, after these have proved to be

²¹ In all three villages the TRI groups leaders operated as agents for regional TRB brokers. In Pakong the TRI group chairmen acted as TRB cane traders and sold their TRB cane to the TRB cane brokers.

reliable. Initially they worked on commission, but successful agents were able to get profit-sharing arrangements from their broker or patron.

At the local level the brokers' networks varied in intensity and organizational form in each village. The networks for cane production ended at local patrons, local overseers, and foremen, and those for the cane trade at local patrons (*bakuls*) and agents. In Sidodadi, part of a regional centre, the networks were most intense, dominated by money-lending and marketing arrangements. In Dadapan the intensity was low because the network of one Malang broker prevailed through its regional patrons in Pakisaji, who controlled both the production of cane on dry-land and its marketing arrangements there. In isolated Pakong the brokers mainly provide loans to the local patrons, which they repay with cane. Thus the brokers' trade networks were most intense in the centres of Malang's sugarcane belt, from where they established linkages into the hinterland through dynamic local entrepreneurs.

Figure 8.3 does not clarify much about the proportion of the cane supplied to the Malang and non-Malang mills. We must therefore examine the cane brokers' marketing strategies at the top of the network hierarchy. For Dadapan, the Chinese broker, beyond the regional patrons, was Kebon Agung's TRB cane contractor, and thus the major share of the TRB cane grown in Dadapan was supplied to PG Kebon Agung as TRIN cane. However, when the cane supply and prices stagnated, the cane also found its way to PG Krebet Baru and non-Malang mills. In Sidodadi and Pakong, Krebet Baru's favoured Chinese contractor tried to obtain bound TRB cane. However, in Sidodadi he had to compete with the contractors of other mills, who also had their networks leading into the village. Since in 1991 the latter paid better cane prices, a major share of the TRB cane in Sidodadi was supplied to non-Malang mills, and only a minor share to the two Malang mills. In Pakong, brokers who had TRIN cane bulk supply contracts with PG Krebet Baru, bound the patrons' TRB cane by supplying loans that had to be repaid with cane. Thus, competition caused the major share of TRB cane in Malang's sugarcane belt to not be supplied to Malang's mills, in contrast to the more peripheral areas, where the mills' contractors prevailed.

We now turn from the organizational forms to the patterns of interaction in the credit and marketing relations. There are no marketing relations for the production units coordinated by the mill. For these, only inter-organizational coordination exists under a hierarchical management structure.

For outgrowers cane, the interaction pattern for the distribution of TRI credit was influenced by contracts in the irrigated area and the leaders' central position in the *tegal* areas. In Sidodadi few conflicts emerged because funds were abundant and factions of cane growers forced the leaders to respect the rules. Within the TRI group responsible for the irrigated area in Dadapan, nepotism led to conflicts between factions of cane growers about rules for allocating credit funds. The leaders of the TRI groups in the dry-land areas practised nepotism as well; in Pakong, they gave the highest priority to their own and their kin's cane, and in Dadapan to their kin's and the regional entrepreneurs' cane. However, in Pakong only individual cane growers had problems with the group leaders. Credit takers there were tied through kinship and patron-client relationships and no coordinated action emerged. In the latter patron-client network, a cane grower had to find an alternative patron when his request for TRI credit was denied. Thus coordination and negotiation was the prevailing pattern of interaction within TRI groups with various factions, while in the patron-client networks it was coordination with the village and supra-local elites and patronage relationships with credit takers.

For the official TRI programme, the credit and marketing relations are linked to the same local organizations and thus the same patterns of interaction prevailed. Not the rules for the distribution of credit, but rather trade restrictions, the harvest schedule and the financial administration were the central issues here. Formally, TRI credit takers transfer the responsibility for their mature cane to the TRI institutions, i.e. the TRI group chairman, cooperative and mill. In Dadapan and Pakong the TRI group leaders and the village heads selectively backed the official marketing policies of the TRI institutions. They tried to implement them strictly for ordinary credit takers, but manipulated them for the TRIK cane belonging to patrons and relatives. For their supervision they received a commission from the TRI institutions at the supra-local level which put the TRI group leaders under pressure, but tolerated a degree of arbitrariness in the classification of their own cane. The regional patrons made deals with the cooperatives' officials and thereby fell outside the TRI groups' influence. However, the TRI groups with contracts with its members used the arbitrariness of the implementation of the TRI marketing policy at the supra-local level as a justification for tolerating the credit takers' resistance to economically disadvantageous instructions from the supra-local TRI hierarchy. Thus, once again the leaders of the contract TRI groups negotiated with their members and with the TRI field staff to reach a compromise. In all this, the leaders of the patron-client networks mediated between their various interests as TRI chairman, as patron and as TRB cane trader.

The patterns of interaction at the local level in the brokers' trading networks were based on trust and mutual advantage. The brokers provided loans to patrons and trading capital to their agents at the local level. In giving loans the brokers run no risks in sugarcane production or trade, but receive a given amount of cane and a share of the profits. In the case of trading capital the brokers take all risks and give a commission or share of the profit to the agent. The TRB cane traders at the local level negotiate transactions with individual cane owners. In the cane futures market, transactions are commonly based on the cane owners' need of capital for the production or consumption. In selling the cane, the owners are interested in maximizing their returns.

For the futures market, the TRB cane traders can use of the cane owners' urgent need of cash and negotiate highly speculative transactions: the *ijon* and *tebasan* arrangements. These transactions occurred in all three villages, but more commonly in the isolated *tegal* area in Dadapan and Pakong, where the patrons dominated the TRB cane market. Regional political and religious leaders could easily criticize them on legal or religious grounds. By supplying their agents with capital to make these lucrative deals, the brokers obtained the major share of the profits, while delegating the responsibility to their local agents.

To prevent conflicts of interests with local cane growers, both the TRI institutions and the brokers cooperated with the village heads and increasingly with religious leaders. Both linkage types for outgrowers cane selected local agents, who had accurate insights into local credit and marketing relations for cane. The brokers' agents further needed to be able to accurately estimate the cane yields on each holding, to compare the various marketing arrangements, and to negotiate an optimal transaction with the cane owners. However, they also needed a local authority in the village communities to keep the actors to the negotiated marketing contract. For their involvement, formal and informal village leaders were paid incentives by the TRI institutions, as well as by the TRB brokers. Since decisions about these incentive systems are taken at the supra-local level, I will deal with them in the next chapter.

In handling conflicts about contractual obligations, the agents need to know the Javanese, Madurese and Islamic normative systems relating to credit and cane sales contracts. In Madurese communities, religious leaders have considerable influence on the economic behaviour of their community members, which contrasts with the Javanese hamlets where formal leaders are more influential. However, in the Javanese hamlet in Dadapan and Sidodadi, religious leaders' influence on moral issues relating to rural capitalism was on the increase. It is not amazing therefore that these leaders criticized the use of *ijon* and other speculative money lending practices in economic transactions at the village level.

Local agents who cannot themselves solve conflicts of interest in contracts, have to involve the village heads who try to solve the problem by exploring the various normative systems. However, when a case is handled by the police, the national judicial system is applied. Only one patron in Pakisaji ever involved the police in a case of cane theft by his overseer.

Many of the brokers' agents in all three villages were hajji and *santri*. This status not only had advantages in land tenure and labour relations, but also in money lending and trade transactions. On the basis of their status as hajji or *santri* these men claim a moral superiority, which provides them with the authority to persuade economic actors to keep to a negotiated contract. On the other hand, the status also facilitates the establishment of connections with actors at the supra-village level, which is used in obtaining information, loans or services.

8.6 Conclusions

Concerning the relation between ecological conditions and the type of linkages, a number of conclusions can be drawn. First the communities in the *sawah* zone organized themselves around irrigated rice production, which had organizational consequences for the local political and agrarian structure. The elected village head was the central authority, who mediated between the community and the supra-local authorities. He allocated communally owned *sawah* holdings evenly between the descendants of the village founders. This political and agrarian structure simplified the introduction of cane production by externally coordinated production units.

This contrasts with the dry land areas where the owners of large holdings dominated the political structure, and private ownership of large farms prevented any claim by external authorities. These owners also introduced cane production on their farms since the agro-ecological conditions were suitable for the crop and the technical characteristics of cane suited their farms. They could manage large cane areas in one operational unit, and the net returns cane brought were higher than those of competitive crops. They hired farm labourers and took up brown sugar production, and later they established links with foreign brokers for the production of cane cuttings. For these patrons internally and externally coordinated linkages in cane production were a central political issue. They externalized cane processing from their farm enterprises, because the technology and management of refined sugar production was too alien for them. For cane production, however, they opposed externally coordinated linkages that limited their economic opportunities in cane production and cane trade.

Before independence, *ulamas* established the NU as the dominant political force in Sidodadi, organizing Islamic interest-oriented associations for different segments of the

communities. After independence the nationalist and communist parties succeeded in forming interest-oriented contract groups, like peasant and workers associations, mainly in the agrarian communities around the city of Malang. The political landscape in the former estate areas was complex since competing regional leaders established gang-like coalitions. For the radical parties the central political issue was not the linkage types, but the distribution of the added-value between the mill on the one hand, and on the other the landowners, the cane workers and the outgrowers. For the leaders of the NU the linkage types and economic opportunities for Islamic entrepreneurs were a central political theme.

These confrontations influenced the organization of cane production in the district. In 1991 internally coordinated production units were dominant in all three villages, although externally coordinated production units are still prominent in Dadapan. In Sidodadi, local cane producers have always opposed mill-managed cane production, and more recently they successfully forced the non-resident entrepreneurs from the local land tenure market. In Pakong they have not yet succeeded all regional entrepreneurs, but some local patrons are expanding beyond the village.

Table 8.5 Comparison organization of cane production in the three villages.

Characteristics	Dadapan	Sidodadi	Pakong
Ecology Local elite	<i>sawah</i> ----- <i>tegal</i> kinship leaders of descen- dants village founders	irrigated <i>tegal</i> landlords, <i>ulamas</i> and formal leader	marginal <i>tegal</i> estate managers and village head
Agrarian structure Farming systems Political structure (post-independence) Introduction cane	even-----skewed irrigated rice---food crops PNI party and competing factions affiliated with the communist and NU party by external agents (mill)	skewed food crops--cane NU-affiliated groups owners large holding	skewed Food crops--rubber Competing factions affiliated with various parties. owners large hold- ings
Organization produc- tion	mill and ---regional,local smallholders---patrons and smallholders	local patrons, small -holders and over- seers	local patrons and smallholders
% land used for cane Production technology	20.7----- 64.5 Reynoso and in---extensive tensive ratoon---ratoon	80.7 intensive ratoon	41.3 extensive ratoon
Coalition in TRI groups	Village head--local and and regional--regional patrons-----patrons	Village head/small- holders, and patrons /smallholders (50%)	Local patron centred networks
Credit strategies	Smallholders TRI Patrons TRI/TRB	Smallholders TRI Patrons TRB/TRI	Patrons TRI/TRB Smallholders TRB/TRI
Marketing strategies	Smallholders TRI/TRB Patrons TRI/TRIN/TRB Regional patrons TRB/TRIN Mill no marketing	Smallholders TRIK /TRIN Patrons TRB/TRIN	Patrons TRB/TRIK /TRIN Smallholders TRB/ TRIK

Source: Field data

About the relationship between ecological conditions, agrarian structure and the organization of production it can be concluded that in *tegal* zones entrepreneurs dominate both cane production and the outgrowers organization. Through their large farms they cultivate the largest cane areas in Dadapan and Pakong, and with the consent of the village heads they also dominate the distribution of credit. In the irrigated zones the smallholders have improved their position in cane production. Until the late 1980s the village heads practised nepotism and manipulated the TRI credit, mainly at the expenses of smallholders. In Dadapan and Sidodadi, the supra-local agencies failed to apply corrections in time and as a result the mills were forced to reorganize the TRI groups. In Sidodadi new TRI group leaders were elected and since the patrons were too busy with their private enterprises, they campaigned for a smallholder with whom they made a contract to improve the quality of group's services and to represent them in the TRI institutions. In two groups this strategy succeeded, and the formation of factions in the TRI groups radically changed the pattern of interaction from patronage to communicative interaction. Thus, the TRI groups in the dry land areas function as patron-client networks, while those in the sawah areas serve as contract groups.

The externally coordinated production units are either directed by the mills or by non-resident entrepreneurs. For these production units the backward linkages (land and labour relations) are the interfaces at the village level. This contrasts with the internally coordinated production units, for which the forward linkages to the supra-local level (marketing relations) are more important.

The local organization and pattern of interaction of the mill coordinated production units can be summarized as follows. The mill aims at a maximal sugar yield per hectare and uses the capital intensive Reynoso production technology in the *sawah* zone. For its land lease arrangements, the mill still depends on the hierarchy of the local administration. It does not negotiate with individual owners, it applies a rule to fix the rent for a location, and leaves it to the village head to organize the owners. It is not surprising that confrontations occur in the land-tenure relations, when landowners prefer to cultivate wet-rice. However, because of the organizational structure, the village head rather than the mill is responsible for dealing with land owners at the village level.

The mill uses a similar construction for the labour relations, going through its overseers who occupy the lowest ranks in its hierarchy. It directs them to form isolated production units and supervises them in technical matters. The mill delegates the responsibility for the labour relations to these overseers, giving them a budget for labour costs. The overseers act as labour brokers, but the temporary character of the labour arrangements forces them to recruit labour using contracts. In this single-stranded relationship the remuneration is relative openly negotiated, and during the cane harvest public confrontations even occur about special bonuses. Through this organization the village head and the mills' overseers rather than the mill are personally responsible for land lease and labour contracts, their supervision and possible confrontations.

The other externally coordinated unit type uses the most capital extensive production technology, because their orientation is toward economic efficiency. These entrepreneurs compare returns from investments in cane production with those in cane trade, leading to an extensification in cane production. For land-tenure and labour relations, the regional entrepreneurs depended on reliable caretakers, who established the connections for the land lease deals, and managed their cane production on commission and profit-sharing arrangements. Their financial position allowed them to select the better land holdings. Like the mill, they delegated the responsibility for the labour relations and limited their

interactions to their caretakers only. These caretakers had teams of cane workers, who worked for them year-round. The terms were either based on kinship and neighbourhood relations or on patron-client ones.

The production and trade arrangements of these entrepreneurs are closely connected, since their caretakers also act as their intermediaries in money lending and trade transactions. By providing loans to patrons and trading capital to intermediaries, the brokers were able to bind TRB cane. These transactions were individually negotiated; the loans and large trade transactions by the entrepreneur, and smaller transactions by the agents. Cooperation with these patrons and intermediaries was based on mutual trust and on profit sharing. However, the regional entrepreneurs did not take responsibility for futures market deals; this was done by their loan takers and agents. However, competition and conflicts about the moral aspects have diminished the lucrativeness of such transactions in Malang's sugarcane belt.

The persons involved in externally coordinated linkages had to make arrangements with the village elite to support their economic interests at the village level. The mill and the regional entrepreneurs can easily be cheated in land tenure, labour, credit or marketing arrangements, and the local elite can easily manipulate the social relations in their production units, to let them feel how depended they are on their backing.

The internally coordinated production units orient their production technology on cane rather than on sugar yields, since the mills are unwilling or unable to make accurate measurements of the cane's sugar content for each cane producer. Additionally, working capital is crucial to these local cane producers, so that they become involved in credit arrangements that have consequences for their marketing relations.

Poor smallholder family farms have such a small resource base that it prevents them from using more intensive production technologies. The interactions in these production units are limited to the household, and to obtain TRI credit they rely on the TRI groups. When they lacked the protection of a patron in the dry-land areas, they failed to obtain TRI credit and thus they easily became victims of the cane futures markets.

The smallholders farm and overseers units in the irrigated areas succeeded in solving their capital problems and in applying more resource intensive ratoon production techniques. In this they contrasted with smallholders farms in the dry land areas, that had to face large risks and capital constraints. In the irrigated areas they had acquired detailed knowledge of production techniques through experience, and had connections with the mills' experts at the local or the supra-local level. In this they differed from smallholders in the isolated *tegal* area, who lacked the connections to obtain either technical information or TRI credit, and had to deal with patronage and nepotism in the TRI groups. Generally, smallholders remunerated their labourers better and therefore had few conflicts with them. Instead, being related to them through kinship and neighbourhood ties, social care was also provided through this channel.

The local patrons in the irrigated areas used techniques similar to those of the smallholders, while in the dry-land areas the patrons used more resource intensive techniques than the smallholders did. The patrons, who were involved in non-farm activities, tended to follow the non-resident entrepreneurs and extensified cane production. Using Van der Ploeg's (1986:45) concepts, the latter aimed at 'economic efficiency', while the former, like many smallholders, particularly in the irrigated areas, aimed at 'technical efficiency'.

The local patrons dominated the local land markets and tried to keep labour costs down through neo-bondage, and in the *tegal* areas through patronage. In Sidodadi and Dadapan

single-stranded labour relationships with advance payments increasingly replaced the multi-stranded ones, which still predominated in Pakong. In both relationships, beside the remuneration, also the relationship itself shaped the encounters. However, in these vertically oriented labour networks, the dominant patterns of interaction were indirect forms of negotiation and hidden forms of protest. These patrons wanted to be assured of cheap labour, but tried to prevent the labourers from making claims on the basis of traditional concepts of patron-client relations.

For credit and marketing relations the patrons, and increasingly the smallholders, found themselves involved in conflicts about the rules and policies of the TRI groups. In this way the rules and the organization changed from being a patronage network into a contract group. This also changed the pattern of interaction between the supra-local TRI institutions on the one hand, and the local cane producers on the other, between which the TRI group acted as the interface. The patterns of interaction at this interface will be the focus of the following two chapters.

This brings us to the importance of social connections; at the supra-local level for internally coordinated production units and at the local level in case of external linkages. Commercially-oriented patrons and smallholders are the experts on land tenure and labour arrangements at the village levels, but for their production and marketing strategies they need contacts with persons who can inform them about production technology, credit and marketing conditions. In their management decisions they compare interest rates, credit contract conditions, tariffs, sugar content, commissions, taxes and deductions. Actors in the formal TRI institutions as well as those in the informal TRB brokers' networks could provide them with this information. However, these people's offices and houses are at the supra-local level: at the sub-district and the mill.

In Sidodadi, patrons and smallholders have such connections, in contrast to Dadapan and Pakong where only local patrons and farmers leaders' have them. Since Sidodadi is part of the regional centre, the cane producers can contact the actors directly for technical and economic information. This enables them to have a better idea of how TRI policies are implemented in the TRI institutions, and about the impact of the supply and demand forces on the credit and cane markets. This supra-local linkage provides information and services that are essential in developing commercial production and marketing strategies.

This contrasts with the mill and the cane brokers who are engaged in the production of cane at the village level. These persons are well informed about the credit and marketing policies for sugarcane and the profits that can be made in the cane business. However, the mill and the brokers need actors who know the local land tenure and labour market conditions, and will negotiate and supervise land lease and labour contracts for them.

In addition, in establishing and maintaining linkages with local cane producers, they rely on agents who know the villagers and their reliability in economic transactions. They also need the backing of the village elite, to prevent conflicts of interest. In all three villages there were tensions between the policies of the TRI institutions and the cane growers' interests. The brokers built their trading networks on these conflicts of interest. Since the hierarchically imposed credit-market regulations of the TRI programme acted against the interests of the economic elite, ways were found to get around them, and the local agents failed to impose them or did so selectively. The highly flexible brokers' networks and a limited cane market were allowed to fill the gap. The linkages and patterns of interaction between actors in the supra-local organizational structures, linking local agents of both the TRI institutions and the brokers to the regionalized sugar production systems, will be the focus of the next chapters.

9 LINKAGES, ORGANIZATIONS AND INTERACTIONS

The organization of the agro-industrial linkages in Malang's sugar sector and the associated patterns of interaction are the central topics of this chapter. This organizational structure covers the official institutions involved in Java's sugar industry at the various administrative levels, as well as the informal organizational forms that function parallel to the formal ones. The patterns of interaction in these formal and informal organizations will be analyzed on a general level, namely from the perspective of the major parties' objectives and strategies.

In chapter three the changes in the organizational structure of the Javanese sugar industry were presented. These changes were related to the new configuration of actors and parties operating in and beyond the industry. Attention was also paid to changes in the industry's ownership and management structure. Through the TRI programme the New Order government annually imposes an institutional structure for the coordination of the outgrowers cane intensification programme, and prescribes the basic agro-industrial linkages for the Javanese sugar industry. The national government further provides subsidized credit for outgrowers' cane production, and regulations to stabilize the sugar price at the national and the cane markets at the regional level.

Chapter four described how the organization of the agro-industrial linkages in the Malang district changed after independence. Political processes at the national and regional levels transformed the internal organization of the mills as well as that of the outgrowers' organizations. Through tripartite arrangements and a semi-official outgrowers organization, the political-administrative structure became involved in the coordination of the agro-industrial linkages at the regional level.

In this chapter the contemporary intra- and inter- organizational linkage in Malang's sugar industry will be examined. The first section deals with the organization of planning and coordination in Java's sugar industry, continuing with the formal institutional structure through which the mills, outgrowers and government agencies coordinate their activities. In the third section the objectives and strategies of the major categories of actors are analyzed, followed by an examination of the formal and informal organizational structures and the way they interact in the regional production of sugar.

9.1 Planning and Coordination.

In chapter three, three central fields of planning and coordination in Java's sugar industry were mentioned; the regulation of the national sugar market, the internal planning and coordination of the publicly-owned sugar industry, and the institutional structure of the TRI programme. In this section the organizational aspects of these three fields of coordination will be considered.

The New Order government transformed the oligarchic structure of the national sugar market into a monopoly for BULOG, the national logistic agency. From the colonial period

until 1975, corporate sugar companies had largely dominated the domestic and export markets. When the private sector was unable to overcome the crises in the export markets in the 1930s, the colonial government, through NIVAS, intervened in the coordination of sugar marketing. With the introduction of share milling arrangements and the payment of the sugar share in kind, the Old Order government broke the oligarchy of the conglomerates of publicly-owned sugar mills. Private sugar brokers also became active in the national sugar market, especially in outgrowers sugar regions like the Malang district. However, when the companies and brokers failed to maintain stable sugar prices to the producers and the consumers, the New Order government created a monopoly for the import and national distribution of sugar, to be administered by BULOG, the logistics organization managed by the military.

Through this intervention the New Order government was able to stabilize consumer prices for sugar and at the same time provide financial incentives to outgrowers for the expansion of sugar cane production. Decisions about sugar prices were initially taken by the ministries involved in the political-administrative apparatus at the national level. Later the New Order government formed a corporate advisory group, DGI (the Indonesian Sugar Council), in which the various interest groups participated in the formulation of compromises to be sent to the ministries concerned in the form of recommendations. In chapter three it was shown that this advisory council did not limit itself to setting the price of sugar, but also brought the share-milling arrangements and the levies into the negotiations. Since the final decisions are taken by the ministers, the final responsibility in theory belongs to the national parliament.¹

The negotiations between the parties about the national sugar market regulations lie outside the scope of this study. However, I want to make the point that the actors at the regional level have a marginal influence on these decisions, which create the basic framework for the agro-industrial linkages at the regional level, particularly about the distribution of the added-value between the mill and the outgrowers organizations.

From the national sugar market we move to the second field of planning, the internal organization of the agribusiness. In 1958 the government nationalized the foreign-owned Javanese sugar mills, an intervention which more recently has been discredited as a planning mechanism at the micro-level (World Bank 1994). Chapter three described the processes at the national and regional levels that led to the transformation of the foreign-owned sugar industry into public and semi-public sugar corporations. Chapter four discussed the same events for both Malang mills, which remained outside the state-owned sugar-mill conglomerates (PTP's) and therefore are still considered to be private sector managed mills. PG Kribet Baru is a subsidiary of PT Rajawali Nusantara Indonesia (PT RNI), a company belonging to the Ministry of Finance which in 1962 became the owner of the Oei Tjiong Ham Concern's confiscated property. The Bank Indonesia pension fund is the owner of PG Kebon Agung and gave the mill's management contract to PT Triguna Bina. PT RNI and PT Triguna Bina both have their central office in Jakarta and regional ones in Surabaya.

The national offices are responsible for all centralized activities, such as technical and economic research, organization and planning, central purchases of inputs and the marketing

¹ The Ministry of Finance is responsible for the coordination of the market and price policies. It is also responsible for the financial aspects of the state-owned sugar mills and for the decisions taken about taxes and levies. BULOG is responsible for the national sugar market through import, export and distribution.

of outputs, financial administration and personnel policies.² The board of directors prepares the company's investment plans and presents them to the board of commissioners, which has the final say about long-term planning and investment decisions. In this way financial institutions from the Ministry of Finance and Bank Indonesia control the major decisions concerning Malang's sugar industry.

Annually the board of directors and their staff evaluate the organizational, technical and financial aspects of the crushing season. PT RNI organizes an internal evaluation, in which staff from all levels of its internal organization participate. Besides the managers and technical staff of the central and regional offices, the mills' senior and field staff jointly analyze discontinuities and constraints in the organization of cane production, the cane supply, and the processing of sugar. This interaction between staff members at various levels in the organization sharpens the internal analysis of technical and organizational changes and constraints. PT Triguna Bina predominantly involves its senior staff in this process.

These evaluations are the basis for the mills' long-term and short-term planning. Decisions about larger investments are made on the basis of long-term production trends and the technical condition of the refineries. Short-term planning is done on an annual basis and involves the development of a scenario for the expansion of cane production and policies for its supply and purchase. In addition, repairs and renovations of the refinery are planned on an annual basis, in which only the directors, the regional head and the senior site managers are involved, since secrecy is required to guard the mills' cane supply and purchase policies. These policies are coordinated by the central offices, and during the crushing season the site managers and the central offices interact intensively to exchange information about the cane supply, cane markets, the *rendemen*, and sugar production.

The regional offices provide liaison, commercial, technical and administrative services to the sugar mills in their hinterland. The head of the regional office is responsible for the company's liaison with the provincial political-administrative apparatus. The offices also organize the purchase, supply and transport of the mills' inputs from, and the delivery of the mills' products to the harbour in Pasuruan or Surabaya. At the regional offices there are cane production, sugar processing, and financial experts who provide technical assistance and supervision to the mills. However, planning and coordination activities fall under the central offices.

The highest official at the mills are the site managers, often called ADM or *Administrator* who represent the company in the district and are responsible for the organization and coordination of the mills. These managers are assisted by four senior managers who lead the following departments: Cane production and Supply, Operation and Maintenance Refinery, Sugar Production, and Financial Administration and Personnel. These departments are hierarchies with clear lines of authority and demarcated competence and responsibilities for activities, that together make up the departments' complex and large scale tasks. For this study the relevant activities, which are connected with the production and marketing relations of cane, resort under the competence of the first and third department.

The heads of the cane production department are responsible for the supervision of outgrowers cane production and its supply to the mill. At PG Kebon Agung this department was also responsible for the mill's nucleus estate. The second level in the departments are

² Appendix 6 shows the organizational structure of PT Rajawali Nusantara Indonesia. The managing director of that company is well-connected to the highest authorities. For example, in 1991 the president and minister of Finance asked him to mediate in a conflict between factions in the court of Surakarta.

the area heads who are in charge of monitoring outgrowers cane in a specific area, and in the case of PG Kebon Agung, on the mill's estate as well. The mills' procurement areas are subdivided in areas, which cover one sub-district in Malang's sugar cane belt and several sub-districts in the more peripheral areas. The area heads coordinate supervisors (*sinders*) who are responsible for a section of an area, which vary in size from one sub-district to a cluster of villages. These supervisors coordinate the mill's field extension workers or PPL PG (*Petugas Penyuluhan Lapangan Pabrik Gula*), and the mill's overseers (*mandors*) involved in the production or harvest of cane. The extension workers and the overseers are at the bottom of the mill's internal hierarchy. The majority of them are employees, a minority work as contract labourers.³ The extension workers and overseers are active at the village level and like the supervisor, they regularly visit the TRI group chairmen.

The heads of the sugar processing sections are responsible for the processing of the sugar and its by-products. The outgrowers call heads of this section the *dokter gula*, since his section is technically responsible for the weighing and grading of outgrowers cane, the processing of cane, the production of sugar, and for the sugar laboratory. Their staff daily monitor the amounts of cane that enter the mill and its sugar content.⁴ The laboratory monitors the development of the outgrowers sugar content from the various production areas. In coordination with the central offices and the site managers, the heads of the sections decide on the sugar content which the mills will give for the different categories of outgrowers cane, by production area and 15 day period.

Both companies try to raise their mills' efficiency through effective organization and appropriate incentive systems. The senior management of the mills argues that the mills are managed in a business-like way. To prevent inflexibility in decision making, inherent in hierarchies, the mills use internal reward systems that run along network lines. The members of semi-autonomous organizational units receive bonuses that are based on the units' task or production performance. Inefficiency or lack of ad-hoc initiatives have a negative impact on the bonuses of the unit and its members. Thus the members of the unit or network feel that they share responsibility for the unit's activities and act to maximize its efficiency and thereby their unit's bonus.

The companies give their senior staff a dividend based on the mills' profit, as a reward for their contribution to realization of the mills' objectives. The 50 senior officials of PG Kebon Agung received bonuses of 9% of the net profit over the 1991 campaign. This dividend is divided over the different organizational units and officials in accordance with a special ratio: the bonuses increase according to the units' efficiency and position in the internal hierarchy. PG Kreet Baru used a similar system for the senior management positions.

For the junior positions at PG Kreet Baru, a system of rewards is used that consists of two fixed and two variable components. The basic salary and the position allowance are fixed and based on years of service, but the performance and production bonus are variable. Every

³ The staff of PG Kreet Baru are employees of a public enterprise and thus members of KORPRI, the organization of civil servants. PT Triguna Bina is a private enterprise and thus its staff members have to join SPSI, the official worker's union.

⁴ The mill's field staff daily brings cane samples to the mill to measure the sugar content of individual outgrower's cane. Using a brix-meter, they also measure the sugar content of cane plots that are about to be harvested. This informs them about the cane's maturity which aids them in making decisions about when the cane is to be harvested.

three months the staff members are given an evaluation by their superior on which the performance bonuses are based. The field staff receives production bonuses which are based on the amount of TRIK and TRIN cane supplied to the mill from the area they command. In 1991 PG Krebet Baru's supervisors and overseers received a production bonus of Rp. 5 for every quintal of cane harvested.

Turning to the third area, the organizational structure of the Bimas rice intensification programme is also used for the planning and coordination of the credit programme for outgrowers cane production. Chapter three discussed the hierarchical organization, with the BP Bimas as coordination board at the national level, the Bimas Advisory Board at the provincial level, and the Bimas Executive Board at the district level.

Through the BP Bimas, the Ministry of Agriculture plans and coordinates the TRI credit programme. Like the sugar council, BP Bimas is chaired by a minister or a junior minister. BP Bimas also organizes the annual evaluations of the sugar cane season to which all agencies, interest groups and experts are invited. During these evaluations, development trends and constraints in the implementation of the TRI credit programme are analyzed for the various regions. Based on the conclusions reached, BP Bimas formulates new policies and institutional readjustments to address the problems and constraints identified in the TRI programme. The Ministry of Agriculture is responsible for the coordination of the TRI programme at the national level. However, the structure of the political administrative apparatus makes the governor and *bupati* responsible for it at provincial and district levels. At these levels the offices of the Ministry of Agriculture resort functionally under their ministry, but structurally under the administrative apparatus. The governor and *bupati* have the administrative authority to coordinate the government agencies and to issue decrees.

Within these Bimas Advisory and Executive Boards, the economic actors involved coordinate their activities, as was described in chapter three. The Department of Estate Crops is the secretary of these boards, and the BRI bank, the cooperatives and Cooperative Department along with the mills are major parties involved. The BRI bank is the main supplier of TRI funds, partly using their own capital, but borrowing the major share from the Bank Indonesia. The Department of Cooperatives is responsible for the guidance of the cooperatives, which perform the task of outgrowers' organization and branch-bank.

The *bupati*, as head of the district government, is also the highest authority, or the *penguasa tunggal*, in the regional sugar production system. He can instruct the sectoral departments at district level, such as planning, agriculture, cooperative, and rural development. However, for a large proportion of their budget these departments resort under the provincial departmental office. The *bupati's* office is responsible for sociopolitical aspects of public services of the government agencies involved, while the departments take care of technical aspects.

The regional parliament (DPRD; *Dewan Perwakilan Rakyat Daerah*) in theory controls the policies and services of the government agencies in the district. However, in practice the bureaucratic structure causes government agencies to refer upwards in the hierarchy, to the *bupati*, for anything extraordinary. In addition, all parties want to prevent disputes or frictions between institutions in the local political-administrative apparatus from being exposed to the public. Thus the bureaucracy is highly centralized and representatives and lobbyists have to find ways to exercise influence, other than through public discourse.

Military staff and networks are important in the sugar industry and the political administrative apparatus at the national and regional levels. After the nationalization of the Dutch owned sugar mills, the military succeeded in obtaining many leading positions in the Ministry of Finance and the nationalized businesses. Retired senior military officials still

occupy many senior positions in the Ministry of Finance, Cooperatives and BULOG, and in the publicly owned sugar companies. Under the New Order government they also obtained leading positions in the local government. The majority of the governors and *bupatis* are military officials, who have positions in the political-administrative apparatus as part of the army's dual function.⁵ In the district leaders' councils (MUSPIDA) the *bupatis* are surrounded by military officials, including the military commander and the head of police. Nowadays sugar mills are managed by professional agricultural and processing engineers, and successful professionals move upwards in the mills. However, military officials are still well represented in the higher echelons of the state-owned companies.

In summary, the political-administrative agencies play a major role in the coordination and planning of the sugar-industry. They regulate the national sugar market, share milling arrangements and the taxes. They coordinate the subsidized credit programme for outgrowers cane production and at the national level they control the major policies and investment decisions for the largely publicly-owned sugar industry. The administrative agencies are hierarchies, and although there is some autonomy for the apparatus at the district and provincial levels, in financial matters and decision making they must defer to higher levels. In theory the political institutions control the administration, but in practice the higher levels of the administration have the greater influence. The interest groups participate in corporate advisory boards that try to negotiate compromises to be proposed to the responsible ministers. The Bimas institutions and the mills organize annual evaluations of the crushing season, in which the economic and political actors involved negotiate improvements in the planning and coordination mechanisms for the next season. These evaluations and negotiations fall outside the scope of this study, although their outcome affects the policy and institutional conditions under which the actors in the regional sugar production systems have to function. Where the Sugar Council is a corporate association, the Bimas organization and the sugar industry are structured hierarchically. The actors in all three institutions, however, use network type organizations for multi-level evaluations of regional sugar production systems, to improve internal efficiency, and to coordinate with external agencies.

9.2 Formal Linkages

After the introduction of the TRI programme, the national government issued a decree each year that set the policy and institutional framework of the Bimas intensification programme in the sugar production systems. In chapter three some of the changes in the institutional structure and the demarcation of responsibilities and authority were explained. This section will concentrate on the institutional structure as prescribed by Minister's decree, Nomor 11/SK/Mentan/Bimas/XII/1991.

This decree specifies the institutional structure for the coordination and implementation of the TRI programme, for the technical guidance to the cane growers, and for the coordination of the harvest and marketing relations. It further specifies the area targets and the amount of credit available for the different categories of cane in the province.

On the basis of this national decree, the governor issues a provincial one. Where he is authorized to do so, he adjusts it to match provincial conditions. In this decree target areas

⁵ Aside from caring for the internal stability and external security of Indonesia, the military also have the social function of contributing to national socioeconomic development.

are specified for each district, and the governor can even assign the *glebakan* tenure status to *sawah* areas which are to be planted with cane in the mills' interest. At the district level the *bupati* does the same thing, modifying the governor's decree in accordance with regional conditions, and specifying the targets for each sub-district. Finally the *camats* and the mills use the *bupati*'s decree to pressure the communities to plant their land with cane and to enter milling contracts with the sub-district cooperatives.

For the TRI credit programme and the extension programme at the district level, the Bimas Executive Board is the coordinating institution. The *bupati* has the final responsibility for the coordination and enforcement of the agricultural intensification programmes at the district level, like Bimas does for rice and TRI for cane cultivation. Based on national regulations and local conditions, such as the local mills' need for cane, the board makes decisions about the adoption of policies for the TRI programme. These include the target cane area for each sub-district, the procedures for the distribution of credit, and extension activities. On a daily basis the head of the Department of Estates coordinates the government agencies involved in the TRI programme. Aside from the *bupati*'s office, these are the Department of Estate Crops, the Department of Cooperatives, the BRI branch office, the management of both Malang mills, and the KP KUD (*Kantor Pusat KUD*; Central Office KUD).⁶ Annually, the board evaluates the TRI programme and passes its recommendations on to the national level via the provincial Bimas Advisory Board.

At the sub-district level, the *camat* chairs the Bimas Executive Board in which, beside the military and police commanders, the agricultural extension services, the field staff of the mill, and the cooperative also participate. The board coordinates the field checks and decides how the TRI funds are to be divided over the villages. The TRI group chairman registers the outgrowers who want to receive TRI funds, and the officials of the mill, the cooperative, and the village administration check their cane in the field. The board then tries to match the available TRI funds with the cane areas in each village.

In addition to coordinating the intensification of outgrowers cane, the board also plans and executes the marketing relations. During the campaign, the *bupati* decides on contractors' requests to approve the trade of TRB cane to non-Malang mills. For that purpose the board and the mills carry out two estimates of the district's cane, the first in February and the second in May. In this estimate the areas of different cane categories (TRIK, TRIN, and TRB) and their expected yields are gauged. The total expected production is compared with the mills' milling capacities, and in case of under-capacity the *bupati* issues trade and transport permits.⁷ However, the assistant governor and the managers of the Malang mills

⁶ During the early 1980s, the national government created provincial cooperative centers (PUSKUD; *Pusat Kooperasi Unit Desa*), which had district branches. These centres were to function as secondary cooperatives under the patronage of the Cooperative Department and BULOG. In 1989 the government wanted to place the institution on a legal basis and formed the KP KUD. The primary cooperatives formally control the new centre and elect the KP KUD's committee members. Through this institutional face-lift, the KP KUD obtained a social and legal charter to negotiate on behalf of the outgrowers.

⁷ In 1991 the cane areal in Malang was estimated at 27,000 ha, with an average yield of 700 quintal cane per ha this resulted in a total production of 18,9 million quintal cane. PG Kribet Baru and PG Kebon Agung respectively crushed 10 million and 5,6 million quintal, leaving about 3,3 million quintal to be sold to non-Malang mills.

also tried to influence these decisions.⁸ When the Malang mills experience cane shortages, it is unlikely that export permits will be issued.

The milling contract, two coordination boards and a working group form the institutional structure of the agro-industrial linkage. After the introduction of the TRI programme, the parties in the Malang district continued to negotiate and sign milling contracts. In the FMPG (*Forum Musyawarah Produksi Gula*; sugar production consultation forum) the mills' managers, the outgrowers' organizations, and the local government coordinate the official marketing linkage. Under each FMPG forum operates an outgrowers' working group, which checks the weighing, grading and fixing a sugar content of the outgrowers cane done by the mill's technical staff. In the FMPW (*Forum Musyawarah Pelaksana Wilayah*; regional implementation consultation forum) at the sub-district level, the mill coordinates its activities with the cooperative and the TRI group chairmen.

In the milling contract the mutual obligations of the mill and the cooperative are specified. These cover the procedures for organizing the cane harvest and supply, for classifying and grading the cane, for fixing the sugar content, and for checking the mills' technical staff. Financial aspects of the marketing relations, such as the tariffs for cane cutting and transport, the subsidies and deductions on cane prices, and the incentives paid by the mill are specified as well. Especially the tariffs, the system for fixing the sugar content, and the subsidies and levies are the central issues in negotiating the milling contract. These topics I will deal with later in this chapter, and especially in chapter ten.

The FMPG, which has an executive team that coordinates its activities through informal networks, meets three times a year. The FMPG is chaired by the manager of the mill and an official of the Department of Estate Crops is its secretary. The other members of the executive team (*Team Pengawal*) are a representative of KP KUD, two representatives from primary cooperatives, and one from the local government. The main actors in this executive committee, the heads of the mill's cane production department and the KP KUD's representative, meet informally to negotiate necessary compromises before the FMPG meets officially. The mill has its connections with the central office, and the KP KUD with the primary cooperatives. In case they fail to reach a compromise, the *bupati* arbitrates. After a compromise has been reached, the full FMPG forum meets to formally approve the milling contract. The forum meets additionally for mid-term monitoring, and for the campaign's final evaluation. The executive team meets more frequently, whenever there are tensions between the mill and the outgrowers about the *rendemen* or the cane supply.

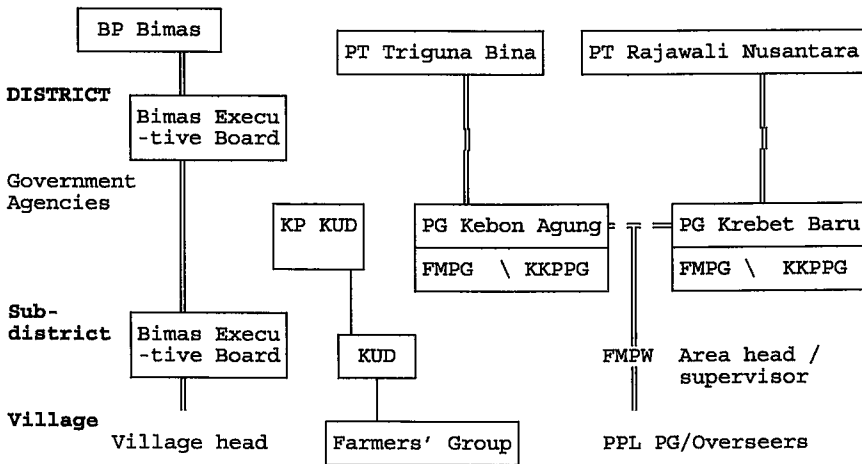
Through the FMPW forum, the mills realize their function as field coordinators. The mill's area head or field supervisor chairs the FMPW forum meetings at the sub-district level. To these meetings they invite the *camat*, the mill's junior field staff, the chairmen of the TRI groups, and the cooperative's TRI staff, and discuss issues related to the intensification of sugar cane cultivation, and the procedures and coordination of the cutting and transport of cane. The FMPW minimally meets three times a year.

For the outgrowers, the grading of cane, its weighing and the measurement of the sugar content are important areas of distrust towards the mill. During the 1980s the national government formed a *team rendemen* to check the mills' *dokter gula*. The PUSKUD officials

⁸ The assistant governor coordinates between the governor's office in Surabaya and a cluster of districts around Malang. For this reason the managers of publicly-owned mills in the Sidoarjo, Pasuruan, Probolinggo and Situbondo districts approached him to lobby for a positive reaction to the requests made by their agents in the Malang district.

controlled these teams, which failed to gain the outgrowers' confidence. In 1989 therefore, the government replaced them by the KKPPG working group (*Kelompok Kerja Pengamatan Produksi Gula*; Sugar production inspection working group).⁹ The primary cooperatives propose members for the KKPPG working groups whom the cooperative centre then employs during the campaign. The working group members, on behalf of the outgrowers, check the mills' staff at the scale, in the sugar laboratory, and its financial administration. Every half-month period the KKPPG reports developments in cane processing, sugar production and sugar content to the KUDs. To meet the KKPPG's expenses, the outgrowers pay Rp. 5 per quintal of TRIK cane.

Figure 9.1 Institutional structure TRI programme at the district level



As was described in chapter five, the central government prescribes the structure of outgrowers' groups that are connected to the TRI institutional structure. At the village level the cane producers are horizontally organized into farmers' groups and into primary cooperatives at the sub-district level. The leaders of the farmers' groups, which also cover the chairmen of the TRI groups, represent their members in the KUD's general members meeting. This meeting elects its executive committee, auditing committee, and advisory board from among the representatives. In practice the local government, the Department of Cooperatives, the regional Golkar leaders, and the mills try to influence the selection the cooperative's leadership and its policies.

In summary, the formal institutional structure for both the outgrowers' organizations and the agro-industrial linkage in the Malang district are decreed by the political administrative apparatuses. The national decrees provide guidelines along which the provincial and district governments, and finally the mills allow the outgrowers to organize themselves, and create the interfaces for vertically-oriented coordination in the sugar production systems. These

⁹ The officials of the cooperative centre hold central positions in the KKPPGs of both mills which engage about 30 outgrowers' representatives during the campaign. These operate in six sub-groups, concentrating on specific tasks like the analysis of cane maturation, cane weighing and quality control, sugar quality, analysis of sugar juice, sugar production, and reporting.

vertically-oriented interfaces are formed by the Bimas Executive Board at the district level, by the FMPG forum and KKPPG working group at the mill, and by the milling contracts and the FMPW forum at the sub-district level. Although the Bimas organizational structure exists to coordinate the credit and technical extension aspects of the cane intensification programme, it also intervenes in the local cane market and arbitrates conflicts of interest in the agro-industrial linkage. This institutional structure creates regionalized sugar production systems, because the regional political-administrative apparatus has authority over the district's cane market. Since the apparatus functions bureaucratically, politicians and lobbyist have to develop appropriated strategies if they are to influence its decisions.

9.3 Actors' Strategies at the Linkages.

Having looked at the formal institutional structure, we now continue with the strategies of the major actors in the production systems: the outgrowers, the mill, and the political-administrative apparatus, successively analyzing their objectives and strategies. These categories will be subdivided in order to deal with the diversity in their objectives and strategies.

In the previous chapter the differences in the objectives of various categories of outgrowers were analyzed. Smallholders in the *tegal* area aim to secure their family's subsistence and avoid risks that could endanger their farms' production. Smallholders in the irrigated area predominantly aim for technical efficiency. Using their available resources, they attempt to obtain the highest yields, resulting in an intensification of cane production. The same is true of local patrons in both the irrigated and dry-land areas. The more commercial ones of these, however, increasingly copy the production objectives of the regional entrepreneurs.

These entrepreneurs aim at economic efficiency. Using their financial resources they can invest in cane production, cane trade, and in off-farm activities. The rate of return on investments in these different areas is central to them and thus they expand their production of cane, compare various cane marketing channels, and try to influence the TRI's policies. Thus, where the objectives and strategies of smallholders are mainly limited to the production sphere, those of patrons also cover marketing. The patrons, in their effort to maximize their returns, act strategically in their relation to TRI institutions and cane brokers. In addition, they play a prominent role in the sub-district cooperatives.

The patrons in the irrigated and dry-land areas have connections with both the TRI institutions and the informal TRB marketing channels. Many patrons in the irrigated area ignore TRI credit and obtain loans for their cane growing and trade activities from commercial banks or TRB brokers. In this way they prevent any claims by TRI on the marketing of their cane, and they can sell it during the months that the sugar content and cane prices are highest. They differ from patrons in the more isolated dry-land areas, who as TRI group chairmen control the institution's funds. Additionally, they obtain commercial loans from their cooperative, and loans based on cane supply contracts from TRB cane brokers. These connections enable them to obtain information about the price and market structure, and to supply their cane through the channel that brings them the highest return.

In the irrigated areas the patron's strategy is to transform TRI groups from patron-client networks into contract groups. In Malang's sugarcane belt, local patrons formed coalitions with smallholders to elect one of the latter as chairman of a TRI group. In return the candidate was supposed to provide proper credit and marketing services to the members of the coalition, and represent the outgrowers' interests in the supra-local TRI institutions. In Dadapan and Pakong the farmers' group leaders argued for similar changes but the TRI

group leaders treated the groups as they did their patron-client networks.¹⁰ In Dadapan and Sidodadi the supporters of the new village heads wanted to put an end to paternalism and nepotism; paternalism in the form of tractability towards supra-local authorities and ignorance of outgrowers' grievances, and nepotism in the favouring of kin and clients.

The sub-district cooperatives organize several services for farmers and small traders, of which its function as branch bank for the TRI programme is most important in the sugar cane areas. These services include those that need economics of scale, such as credit programmes, supply of agricultural inputs, and the marketing of agricultural output. Some of these services are linked to government programmes like Bimas, TRI, and the PPKKP programme.¹¹ The leadership or the general members meeting can also suggest particular services, such as loan schemes for cane trucks in the Bantur sub-district, and milk marketing in Gondanglegi. For the cooperatives in Malang's sugar cane area, the TRI programme is the major source of income.

The debt debacle some cooperatives became involved in caused the officials' influence on the KUD's to decline and that of the entrepreneurs to increase. Many of the TRI groups nepotistically set up by village heads, fell behind in their repayments and as a result new leaders had to be selected. The TRI institutions mainly selected local patrons, while cane growers supported candidates who agreed to improve the quality of services to them and to defend the outgrowers' interests. In addition, the patrons pressured the cooperative to supply TRIN cane, on which the TRI institutions could not charge levies. If the cooperative refused to do this they threatened to sell their cane through other cooperatives or through TRB cane brokers. As a result the leadership of the cooperative had to adjust its policies to the entrepreneurs' wishes and supply TRIN cane to the mills.¹²

The next chapter will focus on the diversity of interests, strategies and patterns of interaction between the actors and parties in and beyond the cooperatives through a comparison between the three cooperatives covered by the village studies. At this point we continue with the objectives and strategies of the mills.

The mills' main objective is to reach their sugar production targets with optimal levels of economic efficiency. In order to do this the refineries have to operate at full capacity for a campaign of minimally 160, and preferably 180 crushing days.¹³ The longer the mills can

¹⁰ In Dadapan the election of a new village head, who had opposed the despotic behavior of her predecessor, led to a struggle over the redistribution of public functions, including the TRI chairmanship, among leaders of the faction that had campaigned for her.

¹¹ The Bimas programme was set up for the national rice intensification credit programme, and the PPKKP is a credit programme of the Bukopin bank, for investments of between Rp. 100.000 and Rp. 200.000 in small enterprises. For these and the TRI programme, the KUD acts as a branch bank.

¹² For example, the cooperative in the Bululawang sub-district is PG Kribet Baru's favourite because its leaders are very amenable to the interests of the mill and those of its favourite contractor. In the Lawang sub-district, cane entrepreneurs, with the approval of the local government, organized their credit and marketing through an idle KUD.

¹³ For the 1991 campaign, PG Kebon Agung had a production target of 62,000 tons of sugar. The mill wanted to crush for 168 days and thus had to produce 370 tons of sugar daily, for which it needed about 4,200 tons of cane. PG Kribet Baru had as a target 106,000 tons of sugar and planned to operate for 170 days. Thus it had to produce 625 tons of sugar daily for which it needed around 7,000 tons of cane.

operate at full capacity, the higher the sugar production and the lower the fixed costs per ton of sugar. Idle production capacities or break-downs in the mills are very expensive¹⁴ and thus the mills pay close attention to maintenance and repairs of the refinery during the off-season. During the campaign, the mills need a steady supply of cane just about their maximal daily crushing capacity. They usually start the campaign in late May or early June, after the start of the dry season, and continue until late October or early November.¹⁵

In earlier chapters it was shown that the two Malang mills use different strategies in obtaining sufficient cane during the campaign. They try to control the supply by harvest and transport orders for different cane categories. In the following paragraphs the strategies connected with these cane categories will be examined.

For TRIK cane the mills cooperate intensively with the local government through the TRI programme. Since the 1970s they have jointly promoted the expansion of outgrowers cane in the *tegal* area of the mills' Malang procurement areas and the eastern sub-districts of Blitar. The local government helped the mills to lease farmers' land for two seasons to introduce cane production. Later the cooperative supplied TRI credit to farmers, who wanted to ratoon the cane the mills had abandoned, and along with government agencies imposed marketing restrictions on cane grown with this credit.

The mills developed the TRIN cane category as a strategy to lower the volume of TRB cane in their procurement areas. After a long economic and political struggle with brokers and the political administrative apparatus, the mills accepted the ruling that TRI institutions can not impose trade restrictions on the cane of patrons who did not take advantage of subsidized TRI credit. In the mills' analysis, the outgrowers have two reasons for selling their cane to TRB traders: the levies collected by the TRI institutions on TRIK cane and cash shortages. By introducing the TRIN category of cane, the mills wanted to avoid both these problems. TRI institutions could not charge levies because TRIN cane was grown without involvement of the TRI intensification programme. In addition, the mills introduced marketing contracts for TRIN cane, which they closed with cane entrepreneurs from between several months before the start of the campaign until its end. The mills made advance payments (*uang setera gula*) of up to 90% of the value of the cane on these marketing contracts. In the past the mills signed such contracts only with their favoured contractors but nowadays they try to bypass these and sign them directly with local entrepreneurs, who cultivate and buy TRB cane in their villages.

To prolong the crushing season, both Malang mills usually compete with non-Malang mills for the last of the TRB cane in the district. During the final weeks of the campaign they offer extra transport subsidies to TRB brokers and contractors who still control large areas of TRB cane. In 1991 the mills gave four brokers special TRINSUS (*TRIN Khusus* or special TRIN cane) supply contracts, for which they received a slightly higher sugar content and extra

¹⁴ PG Kebon Agung exchanges its bagasse (*ampas*) for gasoline with a publicly-owned paper mill in the Pasuruan district. During the 1991 crushing season the paper mill did not fulfill its contractual obligations, and the mill had to use the bagasse as fuel. They had technical problems in adjusting the steam boilers to the new fuel and lost about 20% of their production capacity. A break-down in a refinery leads to extra expenses of Rp. 200,000 to 300,000 per hour, just for energy.

¹⁵ The refineries operate as long as they obtain sufficient cane. PG Kribet Baru usually operates only one of its two refineries at the start and at the end of its campaign. The cane has to be crushed before the start of the west monsoon, because the sugar content declines quickly after the onset of the rains. In addition, muddy roads cause cane growers to have problems in transporting their cane from the plots.

transport subsidies.

In addition, PG Kebon Agung manages a nucleus estate. In 1991 this produced about 180 ha cane mainly on irrigated land, which it rented in the sub-districts around the mill. On paper this cane is produced for cuttings, but in practice the mill crushes the greater part of it. This nucleus estate makes the mill less dependent on outgrowers cane, especially during the start of the campaign when it most frequently experiences shortages. PG Kebon Agung found that the cane it obtained through its nucleus estate was much cheaper than the TRB cane that PG Krebet Baru bought outside the Malang district during the 1991 campaign.

At the start of that campaign, the mills first tried to stop mills in the Kediri district from purchasing TRB cane in Malang. PG Ngadiredjo and PG Modjopangung in Kediri claimed to have lost cane in their procurement area due to the eruption of the volcano Kelud, early in 1991. The governor therefore allowed them to buy TRB cane in the hinterland of the Malang mills and the Kediri mills engaged a Chinese trader from Kepanjen to buy it and organize its transport, paying transport subsidies on top of the cane price. Subsequently entrepreneurs also started to transport and sell their cane to the Kediri mills. The Malang mills wanted to prevent this and lobbied for police checkpoints at the district's boundary. However, when the local government failed to effectively prevent the transport of cane without valid documents, PG Krebet Baru became more aggressive and started to buy TRB cane in the procurement areas of the Kediri mills.¹⁶

Thus, the mills, together with the local government, tried to impose national trading restrictions on TRIK cane, and to prevent the sale of TRB cane to non-Malang mills. Furthermore, the mills developed the TRIN cane category to reduce the volume of TRB cane. PG Kebon Agung furthermore managed a nucleus estate to reduce its dependency on outgrowers cane during the first months of its campaign, in contrast to PG Krebet Baru, which copied the Kediri mills' 1991 TRB cane trading strategy, but now in their own hinterland. For the mills' efficiency, not only is a guaranteed cane supply needed, but cane prices are also very important. In the following paragraphs this matter and the question of the coordination between the Malang mills will be looked into.

For the mills, TS and TRIK cane are relatively the cheapest, PG Kebon Agung paying only the cost of its production and harvest. In the village studies the mills' system of fixing the sugar content was explained: a guaranteed sugar content for all TRIK cane during the first two weeks of the campaign, and an average sugar content per production area (agro-ecological zone and sub-district) every half-month period. The average sugar content increases during the dry season and usually reaches its peak in September or October. As was mentioned earlier, the sugar content of TRIN is slightly higher than that of TRIK cane. By averaging the sugar content for each agro-ecological zone and by sub-district for 15 day periods, the mills pay fixed prices in advance for the cane.¹⁷ After 15 days the mills adjust the sugar content and the cane prices to match the actual development of the technically

¹⁶ The local government initially installed police checkpoints at the border between the Malang and Blitar districts, the Malang mills assisting the police and the army with the cost of the operation. Since these costs were considerable, and the effects were limited, PT RNI decided to buy TRB cane in the hinterland of the Kediri mills, paying Rp. 1000 extra transport subsidy for cane bought there.

¹⁷ At the start of the half-month period, the actual average sugar content and the fixed sugar content are almost the same. Any increase in the actual average sugar content during this period works to the advantage of the mill and decreases to that of the outgrowers. However, increases are much more likely to occur, except during the final weeks of the campaign.

calculated sugar content. However, the two Malang mills coordinate their sugar content and pay close attention to the price paid for TRB cane by contractors of non-Malang mills.

TRB and TRINSUS cane are most expensive for the mill. For both these cane categories they pay extra transport subsidies, because they have to compete for it with other mills. These extra costs are acceptable to PG Kreet Baru because idle capacity during the first week of the campaign is more expensive, and the fixed production costs per unit product during the final weeks of the campaign are low.

The technical efficiency and the quality of sugar at the two Malang mills differ slightly. PG Kebon Agung's mill has a greater internal technical efficiency than PG Kreet Baru does; in other words, the mill processes a higher proportion of the cane's sap into sugar and molasses. Consequently the mill's sugar content for outgrowers' cane during the whole crushing season is usually about 0.05% higher than that PG Kreet Baru's. On the other hand, PG Kreet Baru's sugar is of better quality than that of PG Kebon Agung whose sugar turns brown after three months. In 1991, BULOG graded PG Kreet Baru's sugar as A and Kebon Agung's as C quality, paying a premium of Rp. 1.5 and Rp. 0.5 per kilogram respectively for these categories. Thus, PG Kebon Agung pays slightly more for outgrowers cane and gets more sugar out of it, for which it receives less than PG Kreet Baru does.

To avoid competition, the two Malang mills closely coordinate their cane marketing policies. PG Kebon Agung and PG Kreet Baru's procurement areas follow the borders of the sub-district, with the exception of three sub-districts where they follow village boundaries. Small differences in the price of sugar cane or transport subsidies can instantly cause cane shortages for one mill and an oversupply at the other. For this reason, the managers of both mills not only coordinate their strategies with their national and regional offices, but also with each other. They also do that in lobbying the *bupati* and the Bimas Executive Board, the KUDs and the KP KUD.

The objectives and strategies of the government agencies are less straightforward than those of the outgrowers and the mills. It was mentioned earlier that the *bupati* is the highest authority in the political administrative organization, and that as chairman of the Bimas Executive Board he coordinates the government agencies involved in the TRI programme. As is common in Indonesia, Malang's *bupati* also was a senior military official who obtained his current position before retiring. Before being elected *bupatis* have to make many promises to officials at the national and politicians at the district level. Once the position is obtained, *bupatis* want to establish a reputation as effective coordinators and efficient administrators. To be an effective administrator in the political-administrative structures at the national and provincial levels, development programmes have to be competently coordinated and carried out, and at the district level they have to effectively coordinate the administrative apparatus to clear up the physical and sociopolitical bottlenecks to development projects desired by the economic and political actors in the region. At the same time, the position of *bupati* brings many possibilities to obtain financial spoils or to negotiate them.

For the regional sugar production systems, the political administrative apparatus aims for the sector to perform well in comparison with other districts in the province. The expectations of the provincial apparatus and of the Malang mills owners are high, and disappointment in the sector's performance will immediately bring questions about the effectiveness of the mills' management or the support of the political-administrative apparatus. For this reason, the production targets of the semi-publicly owned mills have to be realized and open socioeconomic conflicts between the interest groups involved must be avoided. At the same time this leading agricultural sector must also provide financial gain for those in the political-administrative apparatus.

For example, agricultural intensification and the performance of sub-district cooperatives are two items on which the *bupati* is individually evaluated by his superiors.¹⁸ Since the Province of East Java wants to lead Indonesia in sugar and cooperatives, the *bupati* of Malang tries to increase the performance of the Malang mills, and to hide the debt debacles that have occurred in the district.

The regional sugar production system is a source of revenue for the tax department as well as for private actors in the administration. The manager of PG Kebon Agung announced during the *pesta giling* ceremony that the mill had paid a total of Rp. 4.25 billion in taxes to the government for the 1990 crushing season. For two national levies imposed on the sugar industry (*cukai gula* and *pajak gula*) the mill respectively paid out Rp. 1,162 and 2,920 million and for specific local government taxes (*pajak PN* and *pajak bangunan dan bumi*) it paid respectively Rp. 69 and Rp. 12 million.

The cane outgrowers and traders also paid taxes and levies to the district government. In 1991 the Tax Department and the Bimas Executive Board charged a road tax as well as a coordination fee to all cane transporters; respectively these were Rp. 1.5 and Rp. 10 for each quintal of harvested TRIK cane.¹⁹ The political-administrative agencies also charged the contractors of non-Malang mills a levy of Rp. 30 per quintal TRB cane that left the district, to compensate them for lost revenues.

A rough estimate shows that in 1991 the district government had an income of about Rp. 400 million from the vertically integrated sugar production system. From the road tax it received about 35 million rupiahs, with around 14 million quintal cane transported per truck. From the coordination fees it received about 80 million rupiahs, with around 10 million quintal TRIK cane in the district, and from the TRB it received about 100 million rupiahs, with around 3.3 million quintal cane crushed outside the district. Thus, the district government received around Rp. 80 million in total from PG Kebon Agung, a slightly higher amount from PG Krebet Baru, and about Rp. 215 million from the outgrowers and cane traders. In addition they received an incentive of Rp. 600 per ton fertilizer from its distributor or Rp. 19.5 million in case all cane growers used the recommended amount for all cane grown in the district. There also was a rumour that local government officials skimmed off the interest from the *dana saham*, which the cooperatives had to put in savings accounts at the BRI bank in Malang.

In summary, for all three broad categories of actors, economic interests were a leading motive. The poor smallholders tried to survive, smallholders and patrons used technical optimization strategies, and commercial entrepreneurs maximized profits. Where smallholders predominantly focused on production, the entrepreneurs also emphasized marketing, applying both economic and political strategies to influence the 'TRI institutions' policies to their own advantage and that of the outgrowers. To meet their economic objectives the mills depend on a continuous flow of relatively cheap cane for a period of 170

¹⁸ A *bupati*'s term of office is five years, and in principle he can have two terms of office. During his fourth year, a team of officials from the national and provincial administrations evaluate his performance which can have far reaching consequences for his further administrative career, determining whether he gets another term, is promoted, or is returned to military duty.

¹⁹ This coordination fee (*Dana pengawasan dan pembinaan angkutan dan intensifikasi TRI*) is an unofficial fund with which government agencies and semi-official outgrowers' organizations finance the control and guidance of transport and TRI intensification. These funds are collected by the *bupati*'s office, which pays the KP KUD Rp. 5 for each quintal TRIK cane to finance the KKPPG working groups at the Malang mills.

days or more. For that purpose they cooperate with the local administration which coordinates the credit and marketing regulations of the TRI programme (TRIK cane). They have also introduced a limited marketing structure for cane grown within the district without using TRI credit (TRIN cane). PG Kebon Agung also adjusts irregularities in its cane supply with cane from its nucleus estate. Jointly the Malang mills try to prevent the unauthorized export of TRB cane from the district. During the first and final weeks of the campaign both mills compete with non-Malang mills for TRB cane grown in the district, PG Kreet Baru even competing with them for TRB cane in their own hinterland.

The political-administrative apparatus has the objective of reaching the Malang mills' production targets and of mediating conflicts of economic interest between actors in the regional production systems. However, they also wish to benefit financially from their involvement in the regional sugar production systems.

9.4 Patterns of Interaction

In the previous sections the planning structure of the sugar sector, the formal institutional structure for linkages between the outgrowers and the mills, and the objectives and strategies of the major actors were examined. In the following attention will be paid to the patterns of interaction in the official and parallel organizations, that make up the agro-industrial linkages of the sugar production systems in the Malang district.

These linkages are made up of various credit-marketing relations. Above, four linkages were mentioned through which the mills obtained their cane, namely the TRIK, TRIN, TS and TRB linkages. Each of these is an organizational form in which transactions are negotiated between the actors or parties. Their formal institutional structure has been presented in section 9.2, and the organizational aspects of the TRIN, TS and TRB linkages were clarified in the previous four chapters, focusing on the village level. Chapter eight dealt with the pattern of interaction for the TS linkage. In this section the organizational aspects of the other three forms of linkage will be combined and the pattern of interaction at these interfaces analyzed.

The formal TRI institutions are the institutional structure for the agro-industrial linkages. The TRI programme decree regulates the responsibilities and authority of the institutions involved in the integrated sugar production systems, and thereby specifies their political-economic and legal framework. The actors in the national institutions decide on the basic division of the added-value between the outgrowers and the sugar mills. They do this through the share arrangement, the price that the national logistic agency pays them for their sugar, and the levies they are charged. BP Bimas and the national sugar companies also decide on the system to be used to fix the sugar content during the campaign, and on the institutional arrangements with which to prevent arbitrariness in weighing, grading and the measurement of the sugar content.²⁰ BP Bimas further decides on the contractual obligations for cane on which TRI credit (TRIK) has been extended.

In the TRI program, the credit and marketing relations are tied to a complex of contracts.

²⁰ The KKPPG working group has not led to a decrease in outgrowers' complaints about the, to them mysterious system of periodically fixed in advance sugar content for each agro-ecological area. Because of this, BP Bimas and the publicly-owned sugar industry introduced a pilot project (Propan STP) for the 1991 campaign in which the cane in each truck was publicly weighed, graded and had its sugar content fixed.

The cooperatives obtain the credit funds through a SPMK contract (*Surat Perjanjian Buka Kredit*; contract to open a credit line) contract from government banks, BRI and Bukopin. The cooperatives operate as branch banks for this credit and channel it to the cane producers through the farmers' and TRI groups. The cooperatives do not sign contracts with individual cane producers, but only explain the marketing conditions of TRIK cane and have outgrowers sign for the fertilizer and funds they receive. The Bimas Executive Board imposes trade restrictions on TRIK cane, which the cooperatives and the TRI group leaders have to enforce at the village level.

Annually, the cooperatives sign milling contracts with their sugar mill, in which the compromises between the conflicting interests are specified. This milling contract has the objective of securing a steady supply of outgrowers cane, and to increase the outgrowers income. A third objective is preventing TRIK cane from being sold to third parties, leading to bad loans. In the contract the cooperatives are obliged to supply all outgrowers cane grown in their hinterland to the mills and the mills agree to crush all outgrowers cane within maximally 180 days.

Given the central regulations mentioned earlier, room for negotiation and coordination of TRIK cane in the TRI institutions at regional level is quite limited. What remains for the members of the FMPG forum to settle in the milling contracts, are the sugar content (*rendemen*) for the first 15 days of the campaign, the tariffs for cutting and transporting the cane, the transport subsidies, and the bonuses for cane quality. Beyond the milling contract, a number of activities that have financial consequences to the parties have to be coordinated through the FMPG and FMPW forums.

The assistant managers of the mills' cane production department and the leaders of the KP KUD are the FMPG's main negotiators. Together with an official from the Department of Estate Crops, they are the FMPG's executive team which meets informally whenever the mills or the outgrowers' cooperatives judge it to be necessary. However, these main negotiators remain in constant contact with the organizations they represent. The mills' managers regularly consult their provincial and national level superiors, who have authority over the mills' cane purchase policies. By telephone, radio and increasingly via advanced electronic networks, they keep each other informed about their strategies and interactions at the various administrative levels. In turn, the outgrowers' representatives keep the leaders of the cooperatives in the mills' procurement areas informed about the progress of the negotiations. At the KP KUD there are representatives of the primary cooperatives and in addition the KP KUD has monthly meetings with the leaders of all primary cooperatives in the district.²¹ Coordination between the actors in the mills' vertical organizational structure is more efficient than that between the actors in the horizontally organized KP KUD. Consequently, while the cooperative centre is responsive to the mills' initiatives, it only acts on its own initiative under the sustained pressure of a coalition of leading primary cooperatives.²²

²¹ The cooperative centre call these meetings *Sarasean* or relaxed working meetings, at which the KUD leaders in the district exchange information and ideas on current issues.

²² For example, in 1990 the mills developed the TRIN category. In 1991 the mills pushed the KP KUD leaders to discuss a common policy for the levies collected by the sub-district cooperatives on their members' TRIK and TRIN cane. Furthermore, the mills wanted to sign a milling contract with the KP KUD rather than with individual KUDs, to guarantee uniformity in contracts and policies.

After a compromise between the main negotiators has been reached, a FMPG meeting is called to formalize the decisions. When they fail to reach a compromise the *bupati*, as head of the Bimas Executive, is asked to mediate. It is not always predictable which position the *bupati* will support²³ as he tries to reach a balance between the cane entrepreneurs lobby at the regional parliament and the mills' strong lobby at the national and provincial administration. Both parties are bound to abide by the *bupati*'s decision.

The FMPG and FMPW forums decide on the coordination of the cane harvest. The mills issue daily cutting orders (SPT) to the cooperatives for two days in advance, and transport orders (SPA) a day in advance, for an amount of cane just above the crushing capacity of the mill.²⁴ The FMPG decides on the system by which to divide these orders between the sub-districts or agro-ecological zones and the FMPW regulates their division among the TRI groups.²⁵ The mills' field staff finally determines the sequence of the holdings to be harvested on the basis of field measurements of the sugar content, and in consultation with the TRI group leaders.

The FMPW forum functions as a social network for the TRI's field staff and the local government. They meet there to coordinate the harvest arrangements before the campaign starts, and to discuss problems that arise because other actors ignore or oppose their decisions. The field staffs coordinate their daily activities through personal connections.

The mills rely on the leaders of the cooperatives and the TRI groups, with the backing of local government officials, for introducing the marketing restrictions on TRIK cane. The TRIK cane owners have to transfer the responsibility for the harvest to the TRI's field staff. Through the milling contracts, the mills also try to make the cooperatives responsible for the supply of TRIN cane, which the owners did not explicitly exclude from being crushed by the mill in whose procurement area the cane was cultivated. In the mills' perception, furthermore, all cane harvested from a plot for which the planter received TRI funds, has to be harvested and supplied to the mill as TRIK cane. They also claimed to have the authority to decide when outgrowers' TRIK and TRIN cane was to be harvested.

In return for supporting their interests at the sub-district and village levels, the mills tolerate the fact that officials and formal outgrowers' leaders use their authority over the TRI credit programme for informal financial projects. The formal leaders used their authority over credit and marketing regulations for TRIK cane, to collect levies for public projects, and to obtain additional income by providing services or being involved in private trading projects. These latter are commonly at the expense of the less wealthy cane growers, because the wealthier ones have ways to get around them. The mills need the officials' support too much to dare to upset them by protecting the interests of the less wealthy cane growers.

²³ Before the 1992 campaign, PG Kreet Baru and the KP KUD leaders failed to reach a compromise about the *rendemen* for the first 15 days. The KP KUD agreed with PG Kebon Agung on an outgrowers' share of 4.2%, but PG Kreet Baru only offered 4%. The *bupati* mediated and decided that both Malang mills would start with 4.2% *rendemen*.

²⁴ Using this system, the mills can quickly adjust the cane supply to fluctuations in their crushing capacity. Namely, harvested cane has to be crushed within 24 hours to prevent a decline in the sugar content. In this way the mills can synchronize both their cane supply and its cutting with the mill's crushing capacity.

²⁵ The FMPG of PG Kebon Agung preferred a system in which the *reynoso* and *ratoon* cane in the *sawah* areal is harvested first, followed by the *ratoon* cane in the *tegal* areal. The FMPG of PG Kreet Baru did not make this distinction between the harvest of outgrowers' cane in the irrigated and dry-land areal.

The *pesta giling* ceremony is an important symbolic event in which the mills, supported by the local government, represent the official version of the agro-industrial linkage. The mills' management organize this official opening of the new campaign, to which they invite all their business relations, including outgrowers' leaders, mill workers, and officials of various agencies. During the ceremonies the mills display their contributions to the national and regional economy, their working principles, and their production targets.²⁶ The *bupati* announces his support of the milling contract and his policies for the regional cane market during the forthcoming campaign, and requests all officials and parties to contribute to the success of the crushing season. The *pesta giling* has a strong symbolic function in showing the like-mindedness and unity of the mill, the formal outgrowers organizations, and the administrative apparatus.

However, the commercial and knowledgeable cane producers are less than impressed by this strategic alliance. They ignore the subsidized TRI credit and oppose any interference by TRI in the marketing of their cane. They supply their cane later in the campaign, when the mills have increased the sugar content. Whenever the Malang mills pay a lower price for cane than the non-Malang mills do, they stop supplying it through the official linkage.

The Bimas institutions have no authority to impose cane marketing restrictions on non-TRIK or TRB cane. Through the TRI programme they can create monopolistic or oligarchic market structures and pressure the cane owners to sell their TRB cane through the official marketing channels, but they cannot sanction the cane owners for refusing to harvest their cane on the mill's schedule or when they sell it to outsiders. The mills can only buy this cane when it is financially attractive for the owners to sell it to them.

The mills, therefore, have to offer special incentives in the form of a little higher sugar content and exemption from harvest costs and TRI levies. The mills want to sign bulk TRIN supply contract for periods when they anticipate structural or short-term cane shortages. These contracts are negotiated for large amounts of cane to be supplied within a limited period. The brokers want to obtain advance payment on these contracts in order to purchase TRB cane. The TRI institutional structure, however, is too rigid for such transactions and thus they are negotiated informally between the mills' management and the cane entrepreneurs, the specific conditions of the contract remaining secret. These contracts need a TRI group and a cooperative to channel the TRIN cane through the formal linkage.

In addition the mills also open TRIN cane registers for local entrepreneurs who want to supply TRIN cane regularly. These entrepreneurs plant and trade TRB cane, and the mills offer them the TRIN cane advantages to compete with TRB cane brokers.

The leaders of several sub-district cooperatives opposed their loss of commissions and the mills' advance payments for TRIN cane. In their opinion this new marketing strategy led to a decline in the cooperatives' revenues from commissions and indirectly from lucrative formal and informal credit programmes for cane traders. In 1990 the first cooperatives went along with the strategy, in 1991 more opened the possibility for cane growers, and in 1992 all cooperatives joined in. However, the cooperatives tried to limit the number of cane growers that could obtain TRIN registers.

The mills offer financial incentives to actors in their procurement area whose cooperation

²⁶ As appendix 4 shows, the mill managers like to present their mill as the outgrowers' 'milling tenant' (*buruh giling*), working on a share-milling arrangement. The outgrowers receive 62 to 72% of the sugar produced as against the mill's 38 to 28%.

and backing they need. They pay commissions to the *camat* and the village heads when renting land in the villages. The mills pay incentives to the same persons for their backing of outgrowers cane production and the milling contract, and for facilitating the transport of cane. The two mills' incentive systems differed slightly in 1991.²⁷ The mills pay the incentives and donations per quintal TRIK and TRIN cane supplied to them through the TRI groups and cooperatives in each of their command areas.

However, this does not prevent these formal outgrowers leaders, who have no contracts with their members, from manipulating the central and regional regulations to their own or their family's advantage. They supply TRIK cane as TRIN cane, pressure ordinary members to harvest when the sugar content is still low, but harvest their own when the *rendemen* has increased. As was shown in the previous chapter, those who had been elected based on their commitments to the members were more careful. They strictly applied the credit regulations, but were less strict about the marketing regulations, as long as the members repaid their TRI debts.

For the enforcement of the TRIK credit and marketing and the TRIN marketing contracts, the mills depend on a strategic alliance with the local government agencies and the leaders of the outgrowers' organizations. The major conditions of these contractual arrangements are decided in negotiations within the institutional structure at the national level. At the regional level, the marketing conditions are further specified in formal TRI institutions, although the negotiations mainly take place through personal contacts between the representatives of the sugar companies and those of the outgrowers' organizations. Only when a compromise cannot be reached does the third party, the administrative apparatus, mediate, after which the parties involved can do little more than accept the *bupati*'s proposal. The previously reached consensus is made public in formal meetings of the TRI institutions.

Both the local government and the cooperative's officials are aware of their contributions to the system and take advantage of their position by arranging private projects that bring them personal financial gain. The commercial entrepreneurs and the mills, however, attempt to avoid this extraction of surplus by the officials.

After this discussion of the organization and pattern of interaction in the TRI programme, we shift our focus to the organization and the pattern of interactions in the parallel TRB cane networks. In 1991, eight regional contractors were active, the majority of whom were Chinese businessmen.²⁸ The contractors live in and around the city of Malang, and have access to many trucks with which to transport their TRB cane at night to the non-Malang mills. There are also many Madurese, Javanese and Chinese entrepreneurs who are regional TRB cane traders. They operate at the sub-district level and their connections are limited to

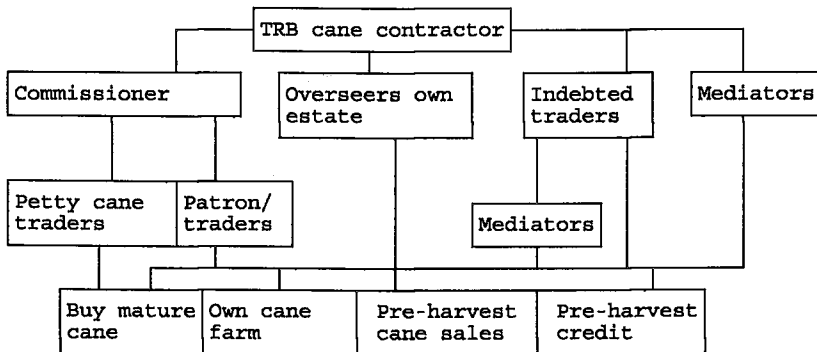
²⁷ In 1991 PG Kebon Agung paid incentives to persons who did not receive a commission via the formal TRI institutions. It paid Rp. 0.6 to the village head, Rp. 0.5 to the *camat*, and Rp. 0.3 to both the heads of police and military at sub-district level. PG Krebet Baru paid an incentive of Rp. 0.6 to the village head, Rp. 2.5 to the TRI group chairmen, Rp. 2.5 to the cooperative and Rp. 0.5 to the sub-district leaders (*Muspika*). PG Kebon Agung further contributed Rp. 0.45 to the village development fund and Rp. 0.95 to the village civil guards, while PG Krebet Baru paid them Rp. 0.6 and Rp. 0.8.

²⁸ Samsul and Wardi act as main contractors respectively for PG Kebon Agung and PG Krebet Baru. One Chinese trucker is the contractor for PG Pajarakkan and PG De Maas, and another Chinese broker does this for PG Asem Bagus and PG Wringinanom. A Javanese broker functions as contractor for PG Wonolangan and PG Kedawung.

the managers of the Malang mills. To sell cane to non-Malang mills they rely on the contractors.

In Part II it was shown that in all three villages a large portion of the cane was sold through private TRB cane traders. Different sub-categories of cane traders were distinguished on the basis of the scale of their enterprise and their organizational form. In scale the traders' enterprises varied from petty cane trader (*tukang beli tebu*), to local trader (*bakul*), to broker (*cukong*), and main contractor of a mill (*kontraktor tunggal*). In their organizational form these enterprises are pyramidal trading networks, with the petty cane traders at the bottom, followed by local traders and agents, and at the top the cane contractors or money lenders. The networks are relatively flat, limiting the number of linkages and thus the expenses involved in the transactions. The combination of economic activities of these enterprises include trading cane, cane production, money lending, and cane transport, the brokers and contractors at the top of the networks having diversified their enterprises into agro-industrial and other service activities.

Figure 9.2 Trading- and credit networks of TRB cane contractors.



The contractors cooperate through intermediary agents using a variety of commissions, loans and profit-sharing arrangements. The contractors and brokers try to recruit reliable local middlemen, who operated in the centre of local cane producers networks. These middlemen establish connections and direct local cane growers or land owners to the broker. The contractors can also provide them with trading capital with which to buy TRB cane, both on the futures market and currently available cane. The agents commonly work on a profit sharing basis for future cane (*tengkulak*) and on a commission basis for current cane (commissioner). In addition, these agents or local smallholders organize cane production for the contractors or brokers on land leased from local land owners (*mandor*). These production and marketing agents need local prestige and a detailed knowledge of socioeconomic relations among cane farmers to prevent or solve conflicts of interests.²⁹

The contractors and brokers also lend working capital to local cane entrepreneurs who

²⁹ Like the TRI institutions, the contractors and brokers also have their agents at the village level. These have detailed knowledge about the social relations of cane production at the village level which protects them from being cheated by lessors, labourers, and cane owners. Chinese contractors prefer formal outgrowers' leaders and religious leaders as their middlemen since these are able to pressure the cane growers to honor their contracts.

repay these loans with TRB cane. Three types of credit-marketing contacts are used, the *sistem pemasukan*, *sistem kontrak* and *sistem pakai uang bank*, in which the way in which the risk and profit will be shared between the local cane trader (*bakul*) and the money lender (*cukong*) are negotiated. It is especially these local traders who are involved in the lucrative, but quite risky cane futures market.

Further, contractors and brokers can engage commissioners to buy TRB cane at their regional office or at the mills' gate. After signing bulk supply contracts, the contractors and brokers distribute advance payments and cane transport orders among their commissioners. These purchase cane for a fixed price from petty cane traders and local patrons who supply it quickly and are paid immediately, either in advance or upon receiving the scale's print-out. The commissioners charge a commission of Rp. 50 to Rp. 100 per quintal on the TRB cane they buy.

Relations between the actors within these cane traders networks develop through interaction and negotiations. The pattern of the interactions is based on the structure of the market in which the traders compare the prices offered by the various commissioners and contractors. They then negotiate marketing contracts with cane owners, specifying for example the price, the harvest time, and advance payments. They also do this with the commissioners of contractors. These transactions between traders and brokers can result in mutual trust, allowing them to negotiate more stable arrangements, based on mutual interest. Using loans, they transform single-stranded relationships into multi-stranded ones, in which risks and profits are shared. Various mechanisms are used in profit sharing arrangements, such as commissions, marketing guarantees for fixed amounts of cane, or a share in the net returns on intermediate contract(s). The general pattern of interaction is that the actors' share in the profits increases according to the financial risk taken.

TRB cane traders could make large profits on the pre-harvest marketing contracts (*ijon* and *tebasan*),³⁰ but the commissioners and contractors fear criticism by the *ulamas* and local politicians. Before the campaign therefore, they provide loans to local entrepreneurs or supply trading capital to their agents, using various arrangements. When the agents work on commission, the brokers take all the risk and get the major share of the profits.³¹ By profit sharing, the brokers reduce their risks by giving their agents an incentive of 20-25% of the profits to make profitable deals. The *kontrak* and *pemasukan* systems carry no risk to the brokers, who only collect interest on the credit extended and a commission on the deal. By involving middlemen the contractors and brokers protect themselves against criticism by the local elite but share in the profits from the lucrative cane futures market.

The brokers and contractors maintain a network of relationships. They obtain their working capital through loans from commercial banks and individual suppliers of capital. They further negotiate bulk TRIN and TRB cane supply contracts with the managers of mills in and outside the district, obtaining the required documents for TRB cane from the *bupati's* office.

³⁰ The pre-harvest marketing contract (*tebasan*) is not risk free. Weather conditions influence both the yield and the sugar content, especially in the dry-land area. Lump sum contracts (*tebas borongan*) are riskier than the ones based on weight (*tebas kwintalan*); in the former, the traders take a risk on both the sugar content and the yield, while in the latter only the sugar content is a risk factor.

³¹ An agent could intentionally make a loss on a sales contract with an acquaintance and obtain a share of the seller's extra profits. The agent can also make lucrative transactions on his own account, and write risky ones off to his patron.

The *bupati*'s decision concerning inter-district cane trade affects the mills' and the brokers' profits, and thus the contractors have had to develop a strong lobby and offer special favours.³²

The contractors closely coordinate their policies and activities relative to the TRI institutions and the procurement areas. Each year they sign memoranda of understanding, coordinating their policies in dealing with the regional authorities. They also prevent competition amongst themselves in their procurement regions, and promote cooperation to cover large bulk supply contracts which they cannot handle individually.

In summary, the TRI institutional structure forms the backbone of the organizational structure of the sugar industry. The different interest groups negotiate compromises in the corporate TRI institutions, but the actors in the political-administrative apparatus arbitrate unbridgeable conflicts of interests. On the other hand, informal networks are a major organizational channel for political lobbying and coordination within and between the different organizations. The internal arrangements in the TRI institutions have led to strategic alliances for the settlement of levies, commissions and informal profit sharing arrangements, mostly at the expense of the cane growers. By not using the TRI funds, knowledgeable cane growers remain beyond the influence of this alliance, leading to contractors' networks that run parallel to the TRI institutions. The mills in turn attempt to incorporate these networks into their production systems by offering compensation to the knowledgeable cane growers for their grievances about the extraction of surpluses by persons in the TRI institutions. However, in order to operate within the formal institutional structure, the mills involve individual TRI groups and cooperatives in their informal bulk cane supply contracts with TRB entrepreneurs and contractors. The brokers build up their relatively flat cane trade networks by cooperating with local agents. These networks are highly flexible and react to market forces at the district and interdistrict levels. They also protect the predominantly Chinese brokers against being cheated by cane producers or traders, economic risk, and political attacks.

9.5 Conclusions

The political-administrative institutions play a major role in the coordination and planning of the sugar-industry. The national agencies control the sugar companies, prescribe the institutional structure for Java's sugar industry in detail, and decide on the formal agro-industrial linkage, including the outgrowers' share, the price of sugar and the taxes to be levied. The administrative organization as well as the sugar companies are organized hierarchically, and the provincial and district levels have limited autonomy in the running of the TRI programme. For major planning and policy decisions they have to defer to the higher levels in the structure.

The corporate DGI and Bimas organizations, and the publicly-owned sugar industry, rather than the political institutions, play a leading role in the planning, coordination and evaluation of the government's involvement in the Javanese sugar industry. Interest groups within the

³² The TRB contractors transporting Malang cane outside the district have to compensate the local government for the revenues lost. This transport also needs the protection of the military and police authorities at the provincial or district levels

sugar council negotiate the government's intervention in the national sugar market and the division of the added-value between the cane growers and the sugar industry. The government agencies involved in carrying out the Bimas credit programme, together with the publicly-owned mills and the outgrowers' organizations, evaluate and advise on the adjustment of the government policies and the industry's formal institutional structure. These corporate institutions have more influence on the sectoral policies than the parliament does.

Bimas and the sugar companies are hierarchies, but informal networks give the required flexibility to these organizations. In multi-level bureaucracies, important decisions are referred to superiors. This, however, requires time and leads to distortions in the exchange of information. To solve these problems of communication and coordination, the mills have introduced network types of organizations, in which lines of communication are shortened. Further, network types of incentives are introduced to foster mutual responsibility and flexibility for the purpose of efficiency.

The official institutional structure regulates both the outgrowers' organizations and the agro-industrial linkages. The New Order government replaced the horizontal organizations and bipartite arrangements of the Sukarno years, by vertical and tri-partite ones. Through these boards the sugar companies negotiate with outgrowers' organizations and, under patronage of the *bupati*, the regional details of the TRI credit programme and the cane marketing relations. However, the mills, outgrowers' representatives and government agencies have created strategic alliances that can tolerate less official projects, levies and graft in the TRI programme.

The mills strongly rely on the support of local government officials and that of the outgrowers' organizations. The internal division of authority as well as coordination within the mills' internal organization are relative efficient, in contrast to the horizontally-organized outgrowers' organizations. Consequently interaction between the mills and the outgrowers takes place through the formal institutional structure but also in the context of the cane supply. When the commercial cane growers and brokers get better deals elsewhere, they stop supplying cane. Therefore the mills paid attention to their interests and developed a linkage for non-TRI cane.

The official structures function only partially, because knowledgeable cane growers refuse to participate in the credit programme. The TRI's authority is limited to the cane grown with TRI credit. The TRIK cane growers can neither decide when and how their cane is harvested, how the TRI loan is repaid, or the tariffs, commissions and contributions that they have to pay. Commercial entrepreneurs do not accept these restrictions and maintained control over their cane through informal money lending-trade networks which connect the village to the regional level. The actors at the top have their informal relations with commercial banks, with the mills' manager, with colleagues, and with the administrative apparatus. With the last they have monetary arrangements that facilitate the obtaining of the required documents for lucrative cane supply contracts from non-Malang mills.

When cane surpluses develop, the administration can shift its alliances in framing its marketing policy. Where the Malang mills wanted to prevent the export of TRB cane, the contractors of the non-Malang mills and the cane entrepreneurs lobbied for it. The mills are operating preventively in contrast to the formal leaders of the outgrowers' organizations, creating strategic alliances with the entrepreneurs. The mills take seriously the entrepreneurs' motives in planting and selling TRB cane, namely avoiding the extraction of surplus by the TRI, and obtaining access to cheap capital from brokers. Manoeuvring between the political and economic interests of the parties in official structures, and the economic ones of the entrepreneurs, the mills introduced a new linkage for non-TRI cane, the marketing contracts,

which they negotiated through informal networks. The mills used transport subsidies and advance payments in order to compete with non-Malang mills. In addition the mills channelled the cane through commercially oriented outgrowers groups in order to use the official linkage. This led to pressure from the entrepreneurs on the leadership of the outgrowers' organizations, to pay more attention to their interests or lose their cane.

This chapter described the organizational structures of the regional sugar production systems as well and analyzed the patterns of interaction on a more general level. The state-owned mills, the administration, formal outgrowers' organizations, and cane entrepreneurs form coalitions centring on economic interests. The mills are highly flexible in forming strategic alliances to secure an adequate supply of cane. The mills have to operate within the TRI structures that are the backbone of the sugar industry. To alleviate the rigidity of that structure, the mills use informal networks to increase the efficiency of their integrated sugar production systems. This, however, is at the expense of the smallholders, who have a very limited say over their cane, because of their dependency on subsidized TRI credit. In the next chapter the smallholders' and entrepreneurs' interactions with the leadership of the outgrowers' organizations in handling concrete conflicts of interest at the linkages will be discussed.

10 POWER RELATIONS IN MALANG'S SUGAR INDUSTRY

The focus of this chapter will be power relations between the various interest groups in Malang's sugar production systems. The central government regulates the institutional and market structure of the linkage between the cane producers and the mills; these regulations are the focus of political and economic struggles between actors and groups within the various organizations of the vertically integrated system. The adjustment of these regulations has led to cooperation through strategic alliances between the major parties, but also to conflicts with actors who think that their interests are insufficiently considered. In addition to the forms of coordination, I will analyze a central encounter in the tripartite arrangements that occurred during the 1991 campaign.

A related issue is the interrelationship between central regulations and the local initiatives of agents and other parties in the regional sugar production systems. In the previous chapter the pattern of interaction was analyzed and officials' informal projects were considered. However, little attention was paid to other parties' initiatives, opposing projects not allowed by central regulations. In this chapter, therefore, the actual interaction between the horizontally oriented forces and vertically oriented ones in Malang's sugar industry will be considered.

Chapter four examined how the agro-industrial linkages in Malang's sugar industry developed, and the role played by regional political conditions and economic initiatives. Attention has also been paid to the different patterns of interaction between TRI groups and sub-district cooperatives, to obtain TRI credit and create marketing linkages. The basic features of the conflicts in the KUD Gondanglegi were discussed earlier as were the patterns of linkage and interactions in the vertically oriented organizations. In this penultimate chapter, these different aspects will be combined and the concrete encounters between the horizontally and vertically-oriented forces in Malang's sugar systems will be analyzed.

For the informal outgrowers' leaders in the district, the agro-industrial linkages during the Old Order regime still were an important point of reference. This chapter will therefore start with a brief historical account of the cane marketing linkages in the region, followed by a recapitulation of the outgrowers' complaints about credit and marketing relations that were presented in the village studies. In section 10.3 a comparison will be made between the three cooperative organizations described in part two. The outgrowers' individual and coordinated resistance activities during the 1991 campaign will be analyzed in section 10.4. Special attention will be paid to the actual conflicts between different coalitions in and beyond the KUD Gondanglegi. The chapter will conclude with an analysis of how political and judicial actors come to the fore in Malang's sugar industry.

10.1 The Outgrowers' Linkage with the Mills

Chapter four showed how the cane growers and the mills initially coordinated their activities

through bipartite arrangements. The Old Order government stimulated the formation of outgrowers' organizations that were to act as intermediaries between them and the mill. In the Malang district, farmers' leaders, affiliated with parties campaigning for more radical policies, controlled the organization associated with PG Kebon Agung (PKTR), and the NU farmers' leaders dominated that of PG Krebet Baru (Petermas).

Table 10.1 Average sugar content and price of outgrowers cane (per quintal)

Year	PG Krebet <i>Rendemen</i>	Baru Price	PG Kebon <i>Rendemen</i>	Agung Price	Outgrowers share
1950			Individual	<i>Rendemen</i>	50% sugar value
1952			12.63	Rp 9.45	50% sugar value
1954	11.23	Rp 10.90	11.19	Rp 11.45	55% sugar value
1956	11.24	Rp 11.45	11.53	Rp 13.22	55% sugar value
1958	10.10	Rp 16.73	10.43	Rp 17.29	55% sugar value
1960	9.99	Rp 16.73	10.91	Rp 21.39	55% sugar value
1962	9.25	4 kg	10.79	4 kg	4 kg sugar (45%) ¹
1964	8.65	5.19 kg	10.-	6 kg	60% sugar
1966	8.54	4.27 kg	10.95	5.47 kg	50% sugar
1968	7.6	4 kg	7.66	3.84 kg	50% sugar
1970	9.78	4.89 kg	9.45	4.72 kg	50% sugar

Source: Fauzari 1973:44-46

In addition, the Soekarno government protected the outgrowers' interest through central regulations that prescribed the distribution of their cane's added-value. First, a minimal sugar-cane price was fixed, and later the Kasimo formula was introduced under which the outgrowers received 55% of the produced sugar's value; in 1962 and 1963 the mills paid the outgrowers 4 kg sugar in kind for every 100 kg cane delivered.² During the 1963 crushing season, however, the mills produced respectively 11.82 and 11.48 kg. sugar per quintal outgrowers' cane, and the outgrowers' organizations demanded the reintroduction of the share milling arrangement under which they had received a fixed share of the sugar produced. In response, the government issued the SK 3 share milling arrangement for the 1964 milling season, decreeing that for one season the outgrowers would receive a 60% share of the sugar to compensate for the low share they had obtained during the two previous seasons. Starting with the 1965 season, the outgrowers received 50% of the sugar produced from their cane (Fauzari 1973:26).

In chapter four it was explained that the leaders of Malang's outgrowers' organizations had different conceptions of agro-industrial linkages and their internal organization. The PKTR's leaders did not favour a particular linkage pattern and saw the organization as a horizontally

¹ In 1962 this 4 kg sugar accounted for 43% and 37% of the sugar produced by respectively PG Krebet Baru and PG Kebon Agung. In 1963 the outgrowers' shares were respectively 33.8% and 34.8%. For a comparison of the outgrowers' share between 12 to 15% has to be added because in contrast with other years the mills paid the harvest expenses in 1962 and 1963.

² The outgrowers opposed this ministerially decreed regulation and in their bipartite negotiations with the mills, reached the compromise that the mill would pay all expenses connected with the harvest.

oriented association that provided socioeconomic services to its members. They choose the cooperative organizational form, and in addition to negotiating contracts and coordinating activities with the mill, they arranged credit for their members. The leaders of Petermas opposed any other form of linkage than outgrowers, and organized themselves internally like a company. These different conceptions of linkages and organization forms reflected the leaders' different major interests, which mainly were political for PKTR and economic for Petermas.

From 1954 to 1958, PKTR and Petermas obtained funds through YATRA. However, in 1956 and 1957 the first bad loans became apparent and YATRA tightened-up the procedures. From 1956 on both organizations also obtained loans from the Bank Indonesia. The mills provided the collateral, but demanded that the outgrowers' organization annual sign milling contracts, giving the mill a more secure supply of cane.

The outgrowers' organizations organized the linkage with the mill by negotiating the milling contract and arranging regular coordination meetings. The negotiation was the central interface between both parties, where decisions were made about central issues, such as the system by which to fix the outgrowers' share, the system of advance and subsequent payments, and the harvesting and transport tariffs to be charged to the outgrowers. The central government's regulations were the judicial framework for the milling contract. These, however, were adjusted to the district's particular socioeconomic and seasonal conditions. During the crushing season, both parties' field staffs met daily to coordinate the harvest. Since the mills calculated an average sugar content for all outgrowers' cane and gave all outgrowers the same sugar content, these did not care when their cane was harvested. The mills' field staff measured the cane's maturity and decided on the sequence in which the plots were harvested.

This should not give the impression that no conflicts occurred in the relations between the mills, the outgrowers' organizations, and the outgrowers. The outgrowers' organizations and the mills regularly failed to reach a compromise, forcing the government to mediate. The outgrowers' organizations even went to the district economic court to settle their disputes with the mills. In 1953 and 1954 PG Kebon Agung refused to make subsequent payments to the outgrowers, and PBKTR claimed Rp. one million compensation for its members. In 1956 the case was brought before the economic court in Malang.³ In 1954 and 1964 Petermas also disputed with the Kribet Baru mill about a compensation that Petermas claimed for its outgrowers. During both these seasons, the mill failed to crush large amounts of the outgrowers' cane. After a three year's legal battle, PG Kribet Baru in 1967 agreed to compensate the affected outgrowers a compensation of Rp. 5000 per hectare.

In chapters four and six the lively trade in sugar and sugar-cane that developed in the Malang district were discussed, particularly that between 1962 and 1975. Since the nineteenth century, traders had been selling outgrowers' cane to mills in the Pasuruan district, and selling brown sugar on the urban markets. In the 1950s the mills changed from assessing an individual sugar content to determining a collective one. The traders started buying sugar-cane certificates, speculating on the subsequent pay-off. After 1962, the opportunities for trade increased drastically when the mill paid the outgrowers' share of the sugar in kind.

³ The government issued a decree for the 1953 crushing season prescribing the application of the Kasimo formula for outgrowers' cane by the mills. PG Kebon Agung introduced the formula during the 1954 season and the daily newspaper 'Surabaya Post' reported on 30 January 1956 that PBKTR subsequently claimed a payment of Rp. one million.

After the national PMPA 12, and later the SK3 decree, the Malang mills lost control over about 50% of the sugar. For two campaigns Petermas sold the outgrowers' sugar centrally at public auctions. Outgrowers, who urgently needed cash or did not understand the system of advance and subsequent payments, preferred to sell their sugar certificates to traders or officials. The trade in these certificates (*D.O's* and *robets*) was very lucrative, especially for those with inside information from the mill about the development of the sugar content for outgrowers' cane.⁴

From 1971 on, the entrepreneurs, especially in PG Kreet Baru's procurement area, started to sell their cane to non-Malang mills. The Malang mills began to have problems crushing all outgrowers' cane before the start of the rainy season. As a result the local entrepreneurs invited other cooperatives to operate as intermediaries in order to break Petermas's monopoly in the linkage with PG Kreet Baru. In addition, the non-Malang mills offered better returns on their cane than Petermas and PG Kreet Baru did. 1976 was a peak year, during which about 50% of the cane in the Kreet Baru's hinterland was sold to other mills (KUD Gondanglegi 1991:5).⁵ In 1976 both the Malang mills expanded their crushing capacities, and the Bimas institutions allocated separate procurement areas to them, restricted the trade, and gave the mills a cane monopoly there. As long as the mills crushed the outgrowers' cane before the beginning of the rainy season and paid prices acceptable to the patrons, they obtained a major share of the cane. When they failed to do so, however, and the price difference became too large, the brokers made deals with the military authorities, enabling them to oppose or bypass the cane trade marketing regulations.

Whenever the outgrowers had problems supplying their cane to the mills, cane brokers started to bribe the mills' and cooperatives' officials to obtain cane supply orders and extra lorries for their TRB cane. Consequently the smallholders feared that their TRIK cane would not be crushed in time and sold it below the market price to TRB cane traders. These traders either supplied the cane to the Malang mills, by bribing officials of the mill and the cooperative, or they supplied it to non-Malang mills through deals with local government officials. Whenever the local government refused to permit the inter-district trade, the local entrepreneurs organized protest actions that exposed the TRI institutions' failure to properly organize the campaign. The cane growers were presented as the victims of the TRI structures's rigidity, and of manipulations by informal networks of mill and cooperatives officials.

In summary, the cane growers leaders, particularly in PG Kreet Baru's hinterland, have a tradition of economic and political strategies with which they defend their economic

⁴ Traders, leaders of outgrowers' organizations, and mill officials invested money they had obtained from various sources in sugar certificates; officials did this through Chinese sugar traders in order to keep their transactions a secret. Outgrowers, who needed cash or foresaw problems in collecting the subsequent payments after the close of the campaign, preferred to sell their sugar certificates to traders. These and officials at PG Kreet Baru had inside information about the development of the average sugar content and thus about the payments to be expected. During years with a long dry season, these traders made up to 100% profit on the money they had invested. In contrast, PG Kebon Agung's management discouraged the speculation in sugar certificates by making higher advance payments and waiting longer to make the final payment. In addition it was more difficult to predict the average sugar content for the outgrowers, because the mill crushed both estate and outgrowers cane.

⁵ Before the season began, the leaders of Petermas could not reach a compromise about the mill's charges for its lorries. The cane owners then refused to have their cane harvested and the mill bought outgrowers' cane in other districts. In reaction, the entrepreneurs sold large amounts of their cane to other mills.

interests. These leaders organized horizontally-oriented organizations, and in PG Kebon Agung's hinterland the PKTR leaders were mainly local political elites, connected to the nationalist and communist parties. In PG Krebet Baru's hinterland, Petermas leaders were also religious and economic elites, affiliated with the conservative NU party. PKTR functioned as a broad outgrowers' interest organization, in contrast to Petermas which also functioned as a commercial organization for the local entrepreneurs. For the latter, support for Petermas remained interesting until its leaders started to make compromises between the entrepreneur's commercial interests, and their own and the government's. The entrepreneurs then looked to create economic and political ways to get around the TRI institutions' rigid credit and marketing regulations, that worked to their disadvantage.

10.2 Outgrowers' Grievances

This section will recapitulate the outgrowers' objections to their credit and marketing relations with the TRI institutions. These are related to the outgrowers' perceptions of conflicts of interest inherent in the TRI institutions' control over the supply of TRIK cane and the system for fixing the sugar content. However, the quality of the economic services provided, as well as the levies collected by the TRI institutions at the regional level, also are a source of tension. These grievance are connected to the strategic alliances between the three major parties in the TRI institutions, as was discussed in the previous chapter.

In chapters eight and nine it was concluded that the patrons and increasingly the smallholders are involved in discussions about the credit and marketing relations. For this purpose these outgrowers have developed ways to obtain maximal returns on their cane. In the irrigated areas, the TRI groups' arrears in the TRI credit programme led to discussions about the rules and policies of TRI groups. Election of new TRI group leaders changed these groups from patronage networks to contract groups. This also had consequences for the pattern of interaction between the outgrowers' leaders and the supra-local TRI institutions.

The TRI programme caused organizational and conceptual problems for the outgrowers. The price and marketing policies for TRIK cane were no incentive for them to supply their cane to the mill through the cooperative. The outgrowers criticized the mills for the complex system of sugar contents fixed in advance by production area. Only a limited number of outgrowers, including the members of the KKPPG working group, understood how the system worked and they doubted the technical accuracy of the measurements. The cane traders had elaborate ideas about how the mills cheated the cane growers through weight and *rendemen* manipulations.⁶

In addition, well-informed outgrowers criticized the negative impact that the sugar content system had on the outgrowers' production strategies. The system led on the one hand to an outgrowers' indifference about sugar content and an emphasis on the weight of the cane, and on the other it contributed to imbalances in the cane supply; shortages during the initial months and long lines of lorries at the mills' gates when the sugar content is high. The system under the mill's control, therefore, not only caused suspicion, but also failed to give

⁶ Some TRB cane brokers in Gondanglegi and Bululawang have scales that enable them to check the weight of the cane they transport. They usually send loads of cane from one plot to different mills in order to compare the *rendemen*. On this basis they develop their marketing strategies and bargain about marketing contracts with the mill's management.

the outgrowers proper incentives to emphasize sugar content and to harvest their cane when the mills needed it most urgently.

The system and the mills' harvesting schedule, then, have continuously been a source of tension for the outgrowers. The large differences in sugar content caused the outgrowers to dislike harvesting their cane early. The TRI institutions, therefore, had to pressure the TRIK cane growers to supply cane when the sugar content was still low. These were mainly smallholders, because the entrepreneurs delayed their cane's harvest until the second half of the campaign.⁷ This coincided with the months when the sugar content was high and the field staff of the mills, cooperative and TRI manipulated the harvest schedule for their own financial gains. Commercial entrepreneurs bribed them to obtain extra cane harvest orders, leaving fewer of these for the poor growers who had to postpone their harvest, increasing the risk that their cane would not be harvested before the start of the west monsoon.⁸

The quality of the services provided by the TRI groups were another constraint. As mentioned above, the TRI's field staff, including the TRI group leaders, manipulated the cane harvest planning procedure for money. In addition, the TRI institutions limited TRI credit in the *tegal* areas, and the TRI group chairmen favoured their own enterprises and those of their kin. They justified the exclusion of commercial outgrowers by pointing out these people's reluctance to follow the mill's technical and administrative regulations for cane production. The TRI group chairmen claimed that in the final instance they were responsible for their members' debts. The involvement of the TRI institutions' field staff in money lending and TRB cane trade also led to conflicts of interest between cane growers and TRI group leaders.

TRIK cane producers also complained about the delay in the distribution of the components of the TRI credit package. Cane producers on *sawah* needed fertilizer from June on, but the cooperatives usually distributed it between November and December, at the start of the rainy season. Outgrowers, therefore, had to find their own solutions, or apply the fertilizer far too late. The cooperatives did not distribute all the TRI funds to the TRI cane producers, disbursing, for example, only the fertilizer and the cultivation expenses components, but not the living allowance.

Another complaint concerned the administration of credit and finances. Some cane growers still felt angry about the way the TRI credit and the marketing had been manipulated in the past. They claimed that the former TRI group leaders had cheated them by manipulating the administration to their disadvantage. They were angry about the abuse of power and the misuse of their trust and naivete by the formal village leaders and their clients.

At present, some TRI group chairmen, particularly those in the isolated *tegal* areas, still do not give receipts of credit, cane sales, or member's shares (*dana saham*) to their members. When they do receive these and check the receipts, they often find errors, usually to their disadvantage. They then have to contact the officials responsible at the cooperative or the mill, and in order to make their argument, must be informed about the policies. It is not surprising, therefore, that less well-informed smallholders would rather pay for the assistance of a local patron, who knows the regulations and the officials.

⁷ If an outgrower delays harvesting until September or October, the next year's ratoon crop would be harvested in August or later, because in the Malang district ratoon cane needs 11 to 13 months to mature.

⁸ In PG Kebon Agung's hinterland, tensions did not run as high because the mill first harvested cane grown on *sawah* and then moved on to *tegal*. In PG Kribet Baru's hinterland this was not done, which worked to the advantage of cane growers in the irrigated area and disadvantaged those in the dry-land area.

One important set of criticisms concerned the levies collected from the cane growers. The TRI institutions collect taxes and semi-official levies in the form of fees, commissions, contributions, and donations. In addition, outgrowers had to pay 'pocket money' to the cane cutters, the TRI group leaders and the village leaders in order to have their cane properly cut, or to get around the TRI programme's official marketing procedures. The outgrowers paid the pocket money when this benefited them, they disliked the taxes, and criticized the semi-official levies which reduced the cane producers' and land owners' returns.⁹ Officially the TRI programme forbade any deductions other than the commission for the TRI group (Ministry of Agriculture 1991:18).

For the bulk TRB/TRIN cane supply contracts the usurious practices and the preferential treatment of entrepreneurs were most criticized. Bulk cane supply contracts were not yet widely known at the village level, where loans tied to promises of cane were better known, and outgrowers criticized the exploitative nature of *ijon* and *tebasan* contracts. The entrepreneurs complained about the special prices and subsidies which the mills offered to regional TRB cane brokers for TRINSUS cane, and to contractors from other districts for TRB cane.

In summary, the outgrowers' grievances concerned the forms and mechanisms of surplus appropriation by TRI institutions and cane brokers. It was especially the knowledgeable outgrowers and commercial entrepreneurs, who were best informed about the formal and informal mechanisms that influenced the division of the added value. However, some of the grievances concerned all outgrowers, while other ones were only relevant to some, because others had found ways around the mechanisms. These grievances concerned the mills' control over the cane supply and the system of *rendemen* as well as the arbitrary policies, poor services and harmful private projects of the TRI officials, and unofficial levies, commissions, and deductions.

10.3 Diversity among Sub-district Cooperatives

The official cane and rice intensification programmes, TRI and Bimas, were the main activities and sources of income of the cooperatives in Pakisaji, Gondanglegi and Bantur. In this section the pattern of interaction within these three cooperatives will be analyzed through a comparison between the process of amalgamation, the coalitions within the cooperatives' leadership, and discourses within the organization about the relation between the cooperatives' sociopolitical and economic functions.

In 1973 and 1974 the district government created the BUUD as the official cooperative, with the specific function of implementing the Bimas rice intensification programme. The sub-district leaders started this cooperative, involving only village heads and local leaders of the official Golkar groups in its leadership and staff. These formal cooperatives obtained a

⁹ During the 1991 crushing season, the manager of the KUD Gondanglegi did not take any commissions from the cane producers for the cooperative's services because BULOG already gave the cooperative a sugar fee and a Rp. 1000 provision for each ton of fertilizer sold, a margin on the interest on BRI loans, a margin on the cutting of cane and the transport contracts, and an incentive of Rp. 2.5 for each quintal cane from the mill.

bad reputation as administrators of Bimas credit programme for rice.¹⁰ Repayment of the Bimas loans was less than optimal and deteriorated further in 1975 and 1976, as a result of crop failures caused by the 'wereng' rice pest. The central government wrote off the arrears on Bimas loans caused by the pest, but for decisions concerning the rice area affected and losses per farmer, the government relied on administrators at the village and sub-district levels. This procedure for forgiving of loans (*puso*) both set a precedent and created opportunities for the village and sub-district administrators.

BUUD's amalgamation with cane outgrowers' organizations, that were led by NU farmers' leaders, led to different patterns of interaction. In the KUD Pakisaji, the NU leaders, who were willing to become Golkar members, joined the BUUD leaders. KPTR's former senior staff, however, lost their influence over the TRI programme, which passed to BUUD staff, who were clients of the *camat*.

In the sub-district Gondanglegi, Petermas and KPTR were politically and economically stronger than the BUUD. Where village officials were prominent in BUUD, NU entrepreneurs dominated Petermas and KPTR. An amalgamation was preceded, therefore, by negotiations in which the organizational and leadership rules were fixed. The staff of all three organizations had to be incorporated into the new cooperative enterprise, the leaders dividing the positions on the cooperative's committee, advisory board, and financial committee. The process of amalgamation took three years; the KUD Ragaseparih was founded in 1978 and the three organizations were dissolved in 1980.

In the Bantur sub-district the outgrowers' organizations had leaders but no staff. In addition, many former military officials were appointed as village heads in this sub-district, as a consequence of agrarian unrest during the Old Order regime. These military village heads were influential in the sub-district's Golkar organization and led the BUUD. After the amalgamation, the Golkar officials shared the leadership of the KUD with KPTR and Petermas cane entrepreneurs.

Thus, the sub-district and village administrators dominated the KUD Pakisaji and side-lined the KPTR leaders and staff. In the Gondanglegi sub-districts local government officials had to give in to the demands of the leaders of established outgrowers' organizations. In Bantur the Golkar leaders smoothly incorporated the cane entrepreneurs into their organization.

These leadership coalitions of the three cooperatives handled the TRI credit programme quite differently. In chapter seven it was shown that in 1983 the KUD leaders in Bantur reacted adequately when arrears in their outstanding TRI loans became apparent. It were individuals rather than networks of cane growers who had received the loans and the cooperative's leaders therefore approached the chairmen, who were held personally accountable for the bad loans, in order to find a solution to the arrears. In addition, the coalition of Golkar leaders and cane entrepreneurs emphasized the economic function of the

¹⁰. For an analysis of the cooperatives' involvement and performance in the BIMAS rice intensification programme, I refer to Hansen (1973:66/77 and 101/112) and Schmidt (1991:111-174). Schmidt (1991:120) discusses the national level discourse about what he calls de-officialization of the KUD cooperative. On one side, technocratic ministers had the idea that national food security had to be achieved using a top-down approach, through rural cooperatives. On the other side were more equity minded ministers and scholars who saw in this top-down approach the reason why the cooperative as an intermediary institution was oriented toward the centre and dominated by the local elites. Local authorities, in the mean time, argued for decentralization as well. Notwithstanding these attempts to de-officialize, the cooperative's sociopolitical function prevailed over its economic functions.

cooperative and condemned the sociopolitical interventions by public administrators.

This was in contrast with the KUD Pakisaji, where the sub-district administrators and village heads manipulated the TRI credit programme and its administration. The sub-district authorities obstructed local opponents of this practice, as was shown by the case of the local teacher in Pakisaji. They furthermore tried and until 1986, succeeded in covering up the TRI groups' bad loans through administrative procedures and over-booking, which were approved by the Bimas Executive Board, under the leadership of the *bupati*. However, KUD Pakisaji's bad loans became public when BP Bimas imposed stricter criteria on the repayment of new loans in 1986, and investigated the bad TRI loans through the provincial Inpres 9/89 team in 1989. The role of local government officials (*petani berdasi*; farmers wearing ties) in these bad debt cases then became clear. They had invested the manipulated TRI funds in private projects, some of which had failed owing to climatic or economic conditions.¹¹ They hid their involvement by using the names of poor villagers and lobbied to have the arrears written off because of the drought, as had happened several times with the Bimas funds for rice. The Inpres 9/89 team, however, pointed them out as the main actors behind the bad debts, although no steps were taken against them until 1992. During the 1989 season, the BRI bank excluded the KUD Pakisaji from further TRI credit, and thus the mill had to take over that task. A year later the district cooperative department arranged for the KUD Pakisaji to again have the responsibility for the TRI credit programme, but now through an *anak angkat* or patronage arrangement with the Pakis sub-district's cooperative.

Similar patterns of interaction emerged around the TRI credit programme in the KUD Gondanglegi sub-district. Public administrators and shrewd patrons (*petani nakal*) leading the local TRI institutions (groups and cooperative), used their influence over the credit relations to undertake informal money lending and cane trade projects. In contrast to the other two cooperatives, a network of cane entrepreneurs and religious leaders (*Petisi 80*) had in 1983 protested about the deterioration of the economic services of the formal outgrowers' organizations, and the arrears in TRI debts caused by their leaders. Rather than allowing the informal leaders to improve the cooperative's performance through competition, the district government tried to bring the leaders of *Petisi 80* back into the official cooperative, offering them leading positions in it. Once in office, these people turned out to be very selfish.¹²

In chapter eight the differences in the organization of sugar-cane production and the farmers' and TRI groups at the village level were analyzed. In part two it was shown that in all three villages the farmer's group (*kelompok tani*) was chaired by a local Golkar representative, who in Dadapan and Pakong also was the local Islamic religious leader. The TRI groups (*kelompok TRI*) in the dry land areas are dominated by local patrons, and in the irrigated areas by smallholders, who are clients of the village head, or elected by coalitions of commercially-oriented smallholders and local patrons. The leaders of the farmers groups and the TRI groups represent the local farmers in the cooperative's general members meeting.

¹¹ Informal outgrowers' leaders pointed to extreme weather conditions in 1982 and 1983. The officials had invested the funds in the cane trade. But 1982 was very dry causing the yields to be low, which led to losses for the traders. 1983 was very wet causing the campaign to start late. The sugar content that year was low, but most important, the mills failed to crush large amounts of cane. Inexperienced traders had problems to supplying their cane to the mills before the start of the new rain season.

¹² Only the network's leader, H. Misdi of Sidodadi, resigned as vice-chairman after his attempts to steer the cooperative's policies in a more positive direction failed.

The debt problems of the cooperatives in Pakisaji and Gondanglegi had personnel consequences both for committee members and managers. In the KUD Pakisaji's hinterland, particularly in the dry-land area, the TRI debt arrears led to the replacement of incompetent TRI group chairmen and indebted committee members. As a result, the authority of the administrators in the formal outgrowers' organizations decreased, and the influence of local and regional patrons increased. Entrepreneurs in Pakisaji lobbied for the new candidate committee members, with whom they had made contracts to improve the economic services of the TRI groups and the cooperatives and to support policies in line with the entrepreneurs' interests. In the Gondanglegi sub-district, the mill backed a public election, which the local officials could not prevent. They had to campaign and compete with local patrons for support among cane growers. In this way the new formal outgrowers' leaders also influenced the election of the cooperative's new committee members.

Clearly then, the transformation of TRI groups from patronage networks to contract groups, which has gone furthest in the Gondanglegi sub-district, also affected the patterns of interaction in the sub-district cooperative; the periodic election of the cooperatives' leaders has also led to contract groups, but now between the regional political leaders (Golkar) and the farmers' and TRI groups. Where these formal farmers' leaders are predominantly local entrepreneurs, like in the KUD Bantur, the contracts are based on their perception of cane growers' interests. Aside from this political strategy, local patrons can also influence the cooperative's policies through economic manoeuvres. They can force the cooperative leadership to pay more attention to their interests by threatening to sell their cane through another cooperative, as happened in the KUD Pakisaji. Where the formal farmers' leaders are predominantly clients of village heads, as is the case in the KUD Gondanglegi, the local TRB cane entrepreneurs influence the election of new cooperative leaders through the election of TRI group leaders.

In theory the leaders of farmers and TRI groups represent the farmers' interests in the cooperative. In practice, however, both the district department of cooperatives, the local government, and the mills' officials also exert much influence on the cooperatives' policies through the formal guidance they give the organizations through the TRI programme. The department of cooperatives held regular meetings with the cooperatives and organized courses for their staff and committee members. The *camat*, department of cooperatives, and the cooperative centre, the KP KUD, can all intervene in the rules of leadership and the organizations' policies.

This pressure from above, and the contracts with actors to represent the outgrowers' interest in the formal institutions, have resulted in a particular pattern of interaction. At this juncture, the discussion will be limited to one policy area, namely the levies on TRIK and TRIN cane that the cooperatives collect for various institutions. For TRIK cane the cooperatives of Pakisaji, Gondanglegi and Bantur in 1991 collected respectively Rp. 34, Rp. 57, and Rp. 65 per quintal, or in total about 13.5, 139 and 42.6 million rupiahs. The relative low levies which KUD Pakisaji charged reflected the small cane area, the low proportion of TRIK cane it supplied (51%), and the influence on the cooperative by the entrepreneurs, who successfully withstood pressure from the local authorities to imposed higher levies.

The authorities and the TRI groups in Gondanglegi imposed high levies on the cane growers. Cane is the dominant crop in the sub-district, and like in Pakisaji the cane growers supplied about 50% of their cane as TRIK through their cooperative. Appendix 7 gives an estimation of the total levies collected from the cane growers and traders in the Gondanglegi sub-district and how these were distributed over the various institutions and interest groups. Of the about 370 million rupiahs levied, the district government got 18%, the cooperatives

50%, the TRI group leaders 13% and the village and sub-district governments 16%, and the Islamic social institutions 2.5%. The faction beyond the KUD manager stopped levying a commission on the cane growers in 1991. In this the cooperative was an exception in the district. In Bantur the leaders wanted to develop their economic enterprise as a model cooperative. For that purpose they needed capital and thus collected almost 14 million rupiahs through high commissions and members' shares. Using the transport sub-contracts and tariffs, the TRI institutions requested the cooperatives to collect Rp. 11.5 as a coordination fee for BP Bimas, KP KUD and KKPPG working groups. The influence of *ulamas* in the Bantur and Gondanglegi sub-districts is shown by the contributions imposed there for Islamic social institutions.

Table 10.2 Formal levies collected by Cooperatives per quintal TRIK and TRIN cane in 1991

Levies	KUD Pakisaji		KUD Gondanglegi		KUD Bantur	
Village Development fund TRIK ¹³	Rp	10	Rp	25	Rp	15
Commission Cooperative	Rp	10	Rp	-	Rp	20
Commission TRI groups	Rp	10	Rp	17.5	Rp	15
Commission Muspika	Rp	4	Rp	1.5	Rp	5
Social Islamic Institutions	-		Rp	3	Rp	5
Members' Capital fund	-		-		Rp	5
Credit Security fund	-		Rp	10	-	
TRI Coordination fee	Rp	11.5	Rp	11.5	Rp	11.5
Levies TRIK cane	Rp	34	Rp	57	Rp	65
Levies TRIN cane	-		-		Rp	11.5

Sources: TRI group leaders in the three villages

In summary, after the amalgamation of the formal cooperatives and the outgrowers' organization, the sub-district and village administrators came to dominate the KUD Pakisaji and side-lined the NU leaders of the outgrowers' organization. However, when they could not repay their TRI credit debts, the influence of regional Golkar leaders and cane entrepreneurs increased. In the KUD Gondanglegi the formal and Golkar leaders had to share authority with the leaders of outgrowers' organizations, who were affiliated with NU. The cooperative's leadership approved opportunistic policies advocated by the formal leaders, that turned out to be harmful to both the institution and the outgrowers. Informal outgrowers tried to modify these policies, but shifted to TRB cane trade after the local government was able to successfully incorporate their factions back into the official cooperative. After the cooperative's debt problems, these informal leaders focused their attention on the election of TRI group chairmen who were committed to the outgrowers rather than to the formal institutions. Through these new leaders they attempted to influence the election of new committee members and through them the cooperative's policies. In the Bantur sub-district, the Golkar leaders smoothly incorporated the cane entrepreneurs into their cooperative. The coalition managed to avoid bad TRI loans by sticking strictly to the national TRI credit

¹³. The bupati annually issues a decree specifying the levies for the village development fund for each sub-district.

regulations, both for the political and the economic elites in the sub-district.

10.4 Outgrowers' Resistance

Cane producers and traders developed ways to minimize the skimming off of surpluses. In a context of relatively rigid social hierarchies, one might expect more hidden forms of resistance than open ones. In this section the forms and content of the struggles within the TRI institutions and the outgrowers' organizations will be analyzed. Individual, uncoordinated actions will be looked at first, followed by coordinated individual actions, and finally social actions.

In part two attention was paid to the actions of individual cane producers in avoiding exploitative cane marketing relations. One strategy, which was used especially by patrons in Malang's cane belt, is to eschew TRI credit and find alternative sources of funding. Entrepreneurs there have access to private funds and to loans from contractors and commercial banks. For smallholders the room for economic manoeuvre is more limited because they have problems obtaining credit other than that offered by TRI. Local money lenders demand a high monthly interest, and TRB cane traders only give loans for fertilizer to smallholders they are acquainted with.

Outside the cane belt, local and regional entrepreneurs use various arguments to register a section of their cane as TRIK cane, hoping to obtain cane harvest and transport orders for TRIK cane in case the supply of TRB cane is blocked at the mills.¹⁴ A second argument is that the *camat* and the village heads request them to register it as TRIK cane in the village where it was grown.¹⁵ Lastly, they like the relative low interest rates on TRI credit. Most important, however, is the fact that they can manipulate the cane categories. The mills expect all cane harvested from a cane plot for which TRI funds were received to be supplied as TRIK cane. TRI chairmen used to enforce this policy for the members' cane, but in the case of their kin' and patrons' cane, they manipulated the categories. They supplied only a small proportion of the latter as TRIK cane, issuing TRIN cane harvest and transport orders for the remainder, or selling it as TRB cane.

For smallholders this is more difficult because the TRI group chairmen and the village heads attempt to prevent them from doing this. Only well-informed smallholders can negotiate arrangements, compensating the elite for the income lost. Another option is to ignore the TRIK trade restrictions and sell a proportion of the cane as TRB cane. The cane growers explained that the mills and the cooperatives try to cheat them through various strategies and mechanisms, and therefore, they also tried to do the same thing to them.¹⁶ In that case, however, the smallholders risked exclusion from TRI credit during the next

¹⁴ In the 1980s, during the campaign's peak period, the central government ordered the mills to stop giving preferential treatment to TRB cane and instead to give priority to cane belonging to indebted TRIK producers. For this reason, TRB patrons still use TRI credit for one holding, so that they can shift to TRIK cane when political conditions cause problems for the supply of TRB cane.

¹⁵ These officials want to reach the TRIK targets imposed on their command area as well as desiring the financial benefits TRI institutions give them for TRIK cane.

¹⁶ Besides manipulating the cane categories, the cane owners irrigated the cane shortly before it was harvested. Some even mixed earth or poured water over the cane loads.

season. The regional entrepreneurs directly made arrangements for the cane categories with the cooperative's leadership.

For outgrowers, informal patron-coordinated actions are an alternative way to get around the TRI credit regulations without being excluded from TRI credit. They coordinate this strategy with the leaders of the TRI groups, cooperatives and the mills field staff, repaying their TRI credit with a minimum amount of TRIK cane. The remainder they sell through the cooperative as TRIN cane, or as TRB cane to contractors, and compensate the patrons, i.e. TRI group chairmen, village heads, and the field staffs, for lost commissions and incentives. These compensations, furthermore, are smaller than the amount officially deducted from TRIK cane.

Aside from individual strategies, coordinated action by members of TRI groups has been mentioned several times. The direct elections of village leaders and the election of new formal leaders has led, especially in the irrigated area, to strategic groupings behind candidates committed to improve the groups' services and to supporting the members' economic interests at the supra-local level. The emergence of this type of contract implied a decline in the influence of nepotism on the distribution of TRI funds and cane harvest orders. Furthermore the elected TRI group leaders were also assisting ordinary cane growers in getting around the TRI institution's semi-official levies. The second consequence is that the elected leaders no longer only represent the interest of certain sub-categories of cane producers.

In chapter five, six and ten I discussed that the cooperatives' debt problems led to coordinated action by outgrowers in some sub-district cooperatives. In Pakisaji the entrepreneurs coordinated economic and political actions, pressing the cooperative to reduce the levies on TRIK cane and to abolish them for TRIN cane. In addition, they lobbied for new cooperative committee members, committed to the patrons' interest. In the Gondanglegi sub-district, the informal outgrowers' leaders again showed interest in the cooperative's policies after the mill managed the TRI credit programme for a year. The election of new leaders in 1990 led to a new pattern of interaction in this cooperative, which will be further analyzed below.

10.5 Disputes in the KUD Gondanglegi

During the 1987/1988 season, several cooperatives in the Malang district could not meet the criteria for new TRI credit, among them the cooperatives of Gondanglegi and Pakisaji, as was discussed in Part Two. The TRI programme's central regulations allowed the mills to extend credit when the cooperatives were unable to distribute and administrate the TRI funds. At the same time the local government tried to find a solution for the indebted cooperatives. This section will concentrate on the struggle between the actors in and beyond the cooperatives in trying to control the institution and its policies. All actors saw the Gondanglegi cooperative as a test-case for the local government in dealing with financial mismanagement.

The Bimas Executive Board and the regional leadership council (Muspida) tried to find solutions for the KUD Ragaseparih, which had been paralysed by the debt debacle. After the Inpres 9-89 team had explored the cooperative's debts, the district police and military also did so, extensively using PG Krebet Baru's financial accounts. The Bimas Executive Board allowed PG Krebet Baru to manage the TRI programme in the Gondanglegi sub-district and to reorganize the TRI groups at the village level. The mill introduced a qualification,

allowing only landowners to become candidates for the post of chairman, pointing out that in case of arrears, their land could be used as collateral. This re-organization of the TRI credit programme prevented interruption in outgrowers' cane production in Malang's sugar-cane belt. Muspida and the Department of Cooperatives sought legal strategies to deal with the debts and frauds that had occurred.

Early in 1990, the leadership of the KUD Gondanglegi was reorganized during the annual members meeting. Three of the six committee members were forced to resign and the local government instructed the informal outgrowers' leaders to look for acceptable candidates. A successful village head, a regional Golkar leader and a young graduate of an Islamic university (IAIN) were nominated¹⁷ and elected. The formal leaders and the new committee voted the son of H. Misdidi of Sidodadi in as the cooperative's manager.¹⁸ The cooperative operated well under its new leadership, closing its accounts for 1990 with a profit of Rp. 107.000.000 (KUD Gondanglegi 1991:3).

The cooperative leadership and the local government wanted the KUD Gondanglegi to regain responsibility for the TRI credit programme. The BRI-Malang branch office and PG Krebet Baru opposed this and on the advice of the Department of Cooperatives, the manager applied for credit from Bukopin, the cooperative bank. The bank placed some conditions on this credit, namely, the cooperative had to transfer its members' equity fund (*dana saham*), to the amount of Rp. 653,500,000, from the BRI to a Bukopin savings account. In addition, Bukopin had to approve any personnel changes in the cooperative's leadership.¹⁹ The credit provided by the Bukopin bank only covered fertilizer, cultivation and harvest expenses. Additional credit for the cooperative's other activities were obtained from a private bank, the BCA.

During the first half of 1991 tensions arose between the manager and the chairman of the cooperative. These had to do with disputes about the internal structure of the cooperative, its function as an outgrowers' organization, and the debt settlement policies. Although the chairman and the manager were the main ones involved in the dispute, they represented factions of formal leaders on the one hand and informal outgrowers' leaders on the other.

The disputes arose about the division of duties and responsibilities. The manager introduced a vertical structure in the enterprise, with a strict division of authority and responsibilities between the manager and the cooperative's committee. The manager, however, claimed the authority to manage and administer the cooperative enterprise while the committee would be responsible for general policies and institutional matters. This interfered with the privileges the cooperative's leaders and officials were used to. For example, they could no longer cheaply borrow trading capital, or appropriate the incentives paid by the mill. Further the manager formalized the lending of money and curtailed unofficial income opportunities.

¹⁷ The village head was a wealthy farmer, head master of an agricultural secondary school, and a regional Golkar leader. In 1990 his village won the national model village competition (*lomba desa*) and subsequently he had become a favorite (*anak mas*) of the *bupati*. The regional Golkar leader had been active in NU's youth organization and the IAIN graduate had recently obtained a degree in business management.

¹⁸ The manager had a German degree in agriculture and business administration and had worked for several years for a trade company in Hamburg.

¹⁹ Rumour was that the reason for the last condition was that the property of the cooperative's manager's father served as collateral for the bank's loan.

The informal leaders wanted to run the cooperative as an outgrowers' interest organization, with the central function of obtaining the optimal price for outgrowers' cane from the mill. In the informal leaders' experience as cane traders, the mills tried to cheat on sugar content and weight; the *rendemen* was fixed by political and economic forces rather than through technical procedures.²⁰ Like the contractors, the cooperatives continually had to compare the scales' weight and the sugar content given by the mills, both in and outside the Malang district. In their opinion, the threat of cane shortages were the best mechanism for pressuring the mills to increase both the accuracy of its laboratory and its scale, as well as motivating them to increase the internal efficiency of their refinery.

During the 1991 negotiation of the milling contract, the manager requested that PG Kribet Baru pay similar prices for TRIK and TRIN cane as farmers could receive for TRB cane. When they finally signed the contract, the manager threatened to withdraw his backing when price differences became too large.²¹ This threat angered the management of PT Rajawali Nusantara and the mill's managers. The cooperative committee supported the formal partnership between the mills and the cooperative, as prescribed in the TRI programme. This incident induced the committee members to openly confront the manager and the faction that backed him.

The two factions' ideas also differed on how to handle the settlement of the TRI debts, because they had a different understanding about their origin. In the opinion of the informal leaders, the outgrowers' leaders and the officials were responsible for the manipulation of the funds, while in the opinion of the formal leaders the trade in TRB cane and institutional weaknesses in the cooperatives were responsible.²²

After the milling contract incident, the committee members, backed by the TRI institutions, dismissed the manager. They sabotaged the manager's preparations for the campaign, and with the mill's assistance tried to take over the financial administration.²³ Both factions mobilized formal and informal leaders who supported their positions at the village level. After the committee blocked the cooperative's accounts, the informal leaders

²⁰ The informal leaders suspected the three major parties in the TRI institution of having made deals about trade restrictions and fixing the average sugar content in advance. These parties opposed inter-district cane trade from the perspective of the supply of cane and not from that of the price of cane. In addition, the system for fixing the sugar content worked to the advantage of the mill, because the system leveled the outgrowers' *rendemen* between outgrowers over a 15 day period. Thus the mills were allowed to withhold a small sugar content (0.1%) from TRIK cane to finance the cost of the district's TRI institutions, such as the BIMAS executive board, the FMPG and the FMPW.

²¹ During the 1991 campaign, the sugar content was fixed relatively high. The mill attributed this to the long dry season, but the members of the KUD Gondanglegi connected it with the manager's emphasis on sugar content.

²² The informal leaders blamed the debt mainly on financial malversation and manipulations by village leaders, TRI group chairmen, and leaders of cooperatives. In their opinion, district level officials were involved as well. Local government officials and members of the TRI institutions attributed the debts to the trade in TRB cane. TRI cane producers sold their cane as TRB cane and thus the cooperative could not deduct the TRI credit from the sale. The officials confessed that there were also cases of mismanagement by TRI group chairmen, village leaders and cooperative's officials, but claimed that these were caused by institutional weaknesses, rather than by individual misbehavior.

²³ The committee members obtained a loan from the mill and like the manager made arrangement with the harvest overseers of the cooperative. They also ordered the cooperative's TRI programme staff to work for them, in an office they borrowed from the mill.

backed the outgrowers in opposing the harvest of their cane by the cooperative's committee. When the manager had to hand in his memorandum of transfer, the informal leaders' supporters occupied the cooperative's office, demanding the annulation of the dismissal and a general members meeting so that members could decide whether they supported the policies of the committee or those of manager. However, in a semi-official organization like the cooperative, the political administrative apparatus mediates in such conflicts, rather than the members. In summary, individual economic strategies were relatively important as forms of protest. It was especially entrepreneurs in Malang's sugar-cane belt who were able to understand the economic and political interactions. They had the capital to dissociate themselves from exploitative TRI marketing regulations, and the connections to coordinate activities and influence decisions. If actions were uncoordinated, the outgrowers risked exclusion from relatively cheap credit. TRI group chairmen are in a position to avoid the appropriation of surpluses by manipulating the cane administration, which the TRI group leaders first restricted to their kin and in contract groups extended to ordinary members as well.

These uncoordinated and patron-coordinated individual actions turned out to be relative effective mechanisms for avoiding or getting around exploitative marketing relations. Their aggregate effect was felt by the mills, which lost control over large volumes of TRB cane. The debt debacle and open elections were the impulse for coordinated social action in the outgrowers' organizations. Informal entrepreneurs and religious leaders mobilized support for knowledgeable leaders, committed to outgrowers' interests rather than to administrative orders. In the KUD Gondanglegi this led to an open confrontation between the factions of the formal leaders, who brought a narrow, egocentric perception of outgrowers' interest into the vertically-oriented structure of the sector, and the faction of the informal outgrowers' leaders, who had a much broader perception. However, actors at the district level influenced the interaction between both these factions. In the following section the resulting pattern of interrelations will be examined.

10.6 Handling Conflicts of Interest

It was the policy of the Bimas Executive Board and the Muspida that outgrowers' leaders, whom the debt investigation teams²⁴ accused of manipulating cooperative or TRI funds, could arrange the settlement of their debt with the public prosecutor. When they did not or could not do so, their case was taken to court.²⁵ The wealthier formal farmers' leaders and village heads could settle their debts with Muspida, some of them even selling landholdings

²⁴ Two teams have been mentioned in part two of this study. A TRI team, composed of BRI and other officials from provincial and district level, investigated the KUD debts in 1989. In 1990 a district team, composed of military, police, and judicial officials, made an in-depth investigation of the bad loans of indebted cooperatives.

²⁵ When the *camat* and the former treasurer of the cooperative died shortly after each other, there were rumours that their deaths were connected with the debt problems.

to do so. The less wealthy leaders had to face court.²⁶ The cooperative was held responsible for debts that could not be settled.

The government officials and the cooperative leadership supported this official strategy, in contrast to the managers and informal outgrowers' leaders. The latter wanted to prevent the cooperative's members being held accountable for the formal leaders' fraudulent behaviour. The informal leaders requested a public financial audit by the public prosecutor which was to also cover the debts of officials and the settlements arranged with the public prosecutor. On basis of it, the general members meeting could then decide its policy regarding the remaining debts.

Both factions within the KUD Gondanglegi tried to influence the *bupati*'s policy regarding their cooperative. After the cooperative's manager was dismissed, the *bupati* initially said that he did not intend to intervene in the cooperative's internal affairs. In this way he supported the cooperative's committee, whose chairman had connections with him and one member of which was also member of the regional parliament. The cooperative's manager had personal relations with the district military leaders and, through his wife's father, with the chairman of the regional parliament. The informal leaders also had connections at the district level, to the NU leadership and to the Islamic party.

However, more important in this context was the lobbying done by the commercial banks. Both the BCA and the Bukopin bank extended credit to the KUD Gondanglegi for the 1991 season. They requested the *bupati* to leave the manager in office, because of contractual agreements they had with the cooperative's committee. Under pressure of these banks the *bupati* intervened and ordered the cancellation of all decrees that hindered the smooth functioning of the cooperative.

The Muspika leadership decided on another strategy, namely using the national regulations for indebted cooperatives. During the 1991 campaign the manager and the committee both prepared new credit arrangements for the 1991/1992 season; the manager with the Bukopin bank and the committee with the BRI bank. The Bimas Executive Board decided that the indebted cooperatives, including the KUD Gondanglegi, must obtain their funds from the BRI bank, in order to settle their arrears with the TRI programme. In 1991 the Ministry of Cooperatives issued a regulation which prescribed 'foster child-parent' (*anak angkat*) relationships between indebted and efficient cooperatives.²⁷ In a decree the *bupati* decided that the KUD Gondanglegi had to obtain its new TRI funds from the BRI bank through the KUD Bululawang.

All political and judicial leaders in Muspida backed this policy, and subsequently the military officials proposed an arrangement to save the manager's face. The informal leaders again requested a general members meeting in order to decide on the two options.²⁸ The

²⁶ The family of a suspect chairman from Sidodadi migrated to Kalimantan in 1989. The chairman had to report weekly to the police authorities until his case came up in court in 1992. He was sentenced to five years in jail but was released after two years when he joined his family in Kalimantan.

²⁷ The 'foster-parent' cooperative was to take responsibility for the TRI funds from the BRI bank. The 'foster-child' had to pay 40% of its fertilizer commission and sugar fees to the 'foster-parent' cooperative, and 25% of its profits to the BRI to repay its TRI debts.

²⁸ The entrepreneurs and the TRI group chairmen, who supported the manager, criticized the government's policy, placing their cooperative in this 'foster-child-parent' relationship with a much smaller and rival cooperative. The informal leaders were furious that the cooperative had to pay 25% of its profits to settle the unspecified TRI debt.

Muspida's decision and the *bupati*'s instruction closed the ranks of the government agencies and the local politicians. Shortly before the manager resigned, his supporters were still trying to organize the 1991 annual meeting, which the *camat* and the police had prohibited, arguing that national regulations gave the *bupati* only one option, namely the official TRI arrangement. The manager and the coalition of informal leaders and TRI group leaders who backed him, were frustrated by the regional political-administrative apparatus' authoritarian policy. The district level military leader suggested that the manager resign, and offered him the position of manager of a bank that the military wanted to open in Gondanglegi.

The conflict in the KUD Gondanglegi also had a party-political dimension. Many of the entrepreneurs and religious leaders were local leaders of the Islamic party (PPP) and their opponents were adherents of Golkar. The former started a public discourse about the causes of the cooperative's debts, and possible solutions to the problem. They held the local government and the Golkar officials responsible for all of it.

In June 1992 the new national, provincial and district parliaments were elected. In the Malang district, the PPP was dominated by NU leaders and in the Gondanglegi sub-district the PPP obtained more votes than Golkar did. The district government tried to create a group of *ulamas* supporting the Golkar party, by them with donations to their religious projects, and by pressuring them through relatives who depended on Golkar patronage for jobs or public services. The district government suppressed the conflicts between these factions in the cooperative in order to prevent a further politicization of the conflict just before the elections.

This conflict in the KUD Gondanglegi illustrates how the political administrative structure influences the patterns of interaction in a cooperative. As long as individual members of the regional leadership council were open to the arguments of the different factions, these openly disputed with each other about the institutions' policies. The power struggle was between the cooperative's chairman and its manager, who each had backing in Muspida. Yet, these in turn were only fronts and the conflict in reality was between the *bupati* as head of the Bimas Executive Board, and H. Misdi, a very experienced and well-informed TRB cane trader,²⁹ who wanted to end the TRI programme's exploitation of the poorer cane producers. However, when the regional leadership council negotiated an uniform policy, supported by all actors in the political-administrative apparatus, the discussions were constrained and judicial strategies were used to prevent further disputes occurring between the vertically and horizontally oriented factions in the cooperative.

An informal outgrowers' leader analyzed the situation as follows. The military, police and judicial authorities investigated the debt case of the KUD Gondanglegi during the course of which they received payments from indebted formal outgrowers' leaders who did not want to have to face court. In addition, the investigators became aware of the involvement of local government officials in the cooperative's debts. The informal leaders suspected the *bupati* of having made a complex deal with the military and judicial authorities. First, the officials' responsibilities for the debts would be covered up and they would not be persecuted. Second, the investigating authorities would receive cash payments from formal outgrowers' leaders who were in arrears with TRI, but wanted to protect their reputation by settling informally.

²⁹ The Madurese-Arab TRB cane broker had been a critical, independent figure on the regional sugar production scene. In 1954 he was one of the founders of PETERMAS. He also repeatedly occupied leadership positions in the outgrowers' organizations, resigning because he did not wish to be held responsible for policies with which he disagreed. In 1983 he was the leading force behind the *Petisi 80* network which opposed PG Kribet Baru's establishing direct connections with TRI group leaders.

The authorities could keep the funds which they received in these informal settlements to compensate them for the cover-up. Third, only TRI group chairmen who failed settle their debts would be persecuted. Finally, the cooperative committee had to take responsibility for all TRI debts that could not be recovered. One of the informal outgrowers' major aims in their involvement in the cooperative's policies was to prevent the big players (big fish; *ikan kakap*) from escaping their responsibility for the debts, and only the small fry being caught. The evidence is that they failed in their endeavour.

The political-administrative apparatus only occasionally intervenes in the interactions in the regionalized sugar production system. Their involvement in handling the debt debacles of cooperatives and the opposition of members' faction to official policies were discussed above to be followed now with a discussion of its involvement in the enforcement of the cane marketing regulations during the 1991 campaign. This will show how it is annually involved in the regionalized sugar production system.

In the previous chapter I explained how the two Malang mills coordinated their marketing strategies and lobby activities with the *bupati*. The mills wanted to maintain their monopoly over the TRIK cane in their procurement areas and opposed the sale of any cane as long as their crushing capacities were not yet fully met.³⁰ Through the institutional structure of the TRI and informal connections, the mills lobbied for the local government's backing of the central cane trade regulations in the mills' procurement areas.

The mills' opponents in this were not the formal outgrowers' leaders but rather the cane brokers. The cooperatives opposed the TRB cane trade, hinting at the money lending and trade activities of (mainly) Chinese brokers (*cukongs*). It were particularly Madurese and Javanese entrepreneurs who pointed out the negative impact of the mills' monopoly on the outgrowers' incomes; the outgrowers received lower cane prices and bore all risk if the mill failed to crush their cane in time.³¹

The TRB cane traders opposed the planning model and lobbied for the deregulation of the cane market. Since the traders were not represented in the TRI institutions, these actions took place through informal networks. The system of planning, on which the *bupati* based his decisions, was criticized by the cane traders for being highly subjective. The mills argued for a campaign of 170 days or longer in order to obtain optimal economic efficiency, pointing to the mills' importance in the regional economy. The TRB cane brokers argued that the Malang mills systematically overestimated their crushing capacities and that their staffs underestimated the cane yields in their procurement areas. In their opinion, the mills' crushing capacity estimates should be based on their actual performance during the previous season, and not on some ideal. In addition, a campaign of 180 days was harmful to the interests of the cane producers, particularly those whose cane had to be harvested during the

³⁰ The Malang mill's managers criticized their colleagues at the non-Malang mills for their reluctance to invest in outgrowers' cane in the dry-land areas, the Malang mills having invested in the expansion of outgrowers' cane in the *tegal* area of their procurement area since the 1970s. The non-Malang mills had ignored this and continued to rely on mill and outgrower managed cane in the *sawah* area. When landowners increasingly shifted to paddy, these mills were forced to buy expensive outgrowers' cane in the Malang district.

³¹ In the past it had regularly happened that the mills minimized the export of cane, trying to prolong their campaign. If the rainy season then started before the campaign ended, the cane's owners suffered major losses, because cane prices declined and the harvest costs increased. During some campaigns the mills had failed to crush the cane and refused to compensate the owners for it.

first and last two months of the season. They received lower prices for their cane and had to bear the high risk of adverse weather conditions. Further, the mills' field staff played a leading role in the estimations of yields in the procurement areas, and, given the mill's interests, these estimates were highly biased. In this way the local government's planning method better suited to the interests of the mills than those of the outgrowers.

When they were unsuccessful in influencing the *bupati*'s decision they did not hesitate to make their opinions and grievances public. Madurese and Javanese brokers arranged for articles in the national and regional newspapers, with photographs of trucks lining up at the mills' gates, in which they complained about the negative impact of the *bupati*'s protectionist policies. They also involved the owners of the non-Malang mills and military officials at the provincial level in their lobbying efforts.

With the informal backing of influential political actors, these entrepreneurs even challenged the enforcement of official trade restrictions. Whenever differences in *rendemen* between the Malang and non-Malang mills became too large, and the administration refused their requests, the brokers found ways to sell cane elsewhere. They made deals with the officials responsible for the enforcement of official decrees, offering them commissions or shares in the profit to obtain their backing. They coordinated the early morning movement of their loaded cane trucks in convoy to the check points, surprising the police or military officials or tipping them collectively for a free pass.

During the 1991 campaign, it was especially PG Kabet Baru that lobbied the *bupati* for stricter control of the trade regulations. At the start of the campaign, the governor allowed two Kediri mills to buy TRB cane in the procurement areas of the Malang mills. These Kediri mills paid extra transport subsidies and thus made it more attractive for cane owners to sell to them. Entrepreneurs and traders tried to sell more TRB cane to the mills than the official documents entitled them to do. Consequently the Malang mills lobbied for action by the Bimas Executive board, to stop these unauthorized TRB cane sales, requesting strict government control over the application of the regulations at the check points.

The Bimas Executive Board found it difficult to justify and enforce the trade restrictions on TRB cane, since the owners did not use TRI services, and therefore opposed any interference by the board. They claimed it to be their right to sell their cane to whoever offered them the best price. To enforce the trade restrictions, the Bimas Executive Board needed staff, facilities and an extra budget, asking for contributions from the mills for the operational expenses of check posts along the main roads to Blitar and Pasuruan. Since the cane traders bribed the police and military officials there, these check posts were less than effective and therefore PG Kabet Baru started to buy TRB cane in the procurement area of the Kediri mills.

This led to a 'cane war' between the Malang mills and those in Kediri, from which the cane entrepreneurs and other interest groups tried to benefit through private projects. The entrepreneurs also wanted to experiment with the new *Propan* SPT project which the Kediri mills had to use. The traders tried to obtain extra transport subsidies by cheating the mills, delivering Malang cane to PG Kabet Baru on trucks registered in Kediri, and Kediri cane to the Kediri mills on trucks with Malang plates. PG Kabet Baru tried to stop this practice by having its own check points on the main road, which the cane trucks had to pass in order

to obtain documents for Kediri cane.³²

In summary, in the vertically-oriented TRI institutions at the regional level the regional political and judicial leaders tried to influence the interactions at the lowest levels of the integrated sugar production system. They did this through the hierarchical administrative structure, leading to a central role for the *bupati*'s office in the production system. Using their informal connections, the Malang mills and the cane traders vied for the *bupati*'s ear and interest, in connection with the inter-district cane trade. However, when the economic interests involved were too important, the Madurese and Javanese entrepreneurs openly criticized and even undermined the official policies. They first tried to obtain protection from someone in the regional leadership council (Muspida) through informal family connections or deals. In that way they attempted to exert pressure on the *bupati*'s decisions or undermine his authority. However, as the decisions regarding the cooperative's debts show, the actors in the district's political and judicial leadership presented an united front, retaining political control over the entrepreneurs initiatives. They had to do this because the local government's authority and the officials' private interests were at stake. The bargains the *bupati* made to obtain this united front remain secret. The suspicion is, however, that the police, military and judicial agencies were paid-off with cash that came from the indebted formal outgrowers' leaders, seeking to save face.

10.7 Conclusions

Especially in PG Kabet Baru's hinterland, Madurese and Javanese entrepreneurs traditionally pay critical attention to the mills' and government's policies concerning the linkage, opposing the policies when these ignore their interests. This contrasts with PG Kebon Agung's hinterland, where political leaders represented the outgrowers in negotiations with the mill and the local government.

The Old Order government issued central regulations for the outgrowers' linkages to the mills, but did not influence their interaction. The parties negotiated the marketing and harvest transactions together, and the Old Order government provided judicial arbitration when they failed. The outgrowers' organization in PG Kebon Agung's hinterland (PKTR) functioned as a horizontal organization, in contrast to PG Kabet Baru's (Petermas), which also acted as a commercial organization for its owners, the local entrepreneurs. The entrepreneurs in PG Kabet Baru's hinterland created more room in the linkage for their private trade. However, their interest in Petermas began to decline when the leaders became opportunistic and mixed outgrowers' interests with their private interests and those of the local government. This first occurred when the mills failed to crush all the outgrowers' cane, and again when the New Order Government introduced the TRI programme in which their interests were represented by the local government and the outgrowers' organization.

For fifteen years, the agro-industrial linkage in the Malang district has followed the annual national decrees of TRI programme, and the outgrowers' grievances with the linkage concern the appropriation of surpluses by the TRI institutions and the TRB cane brokers. Not

³² Some cane brokers would pass the check point several times with one truck, changing its licence plate each time, in order to collect the proper documents. These they used to supply Malang cane to PG Kabet Baru as Kediri cane. Rumours also circulated that mill officials were involved in manipulating the documents, selling them to traders or supplying cane in which they had an economic interest to their own mill as Kediri cane.

surprisingly, the entrepreneurs and the brokers were best informed about the formal and informal mechanisms with which parties and actors at various levels extract surpluses from the outgrowers. They have strategies to avoid this and thus few of the grievances are of concern to all outgrowers, and most are only relevant to certain sub-categories of cane growers.

The most general criticism was about the mills' control over the cane supply and the *rendemen* system. More specific complaints from TRI cane producers, predominantly from smallholders in the irrigated and the dry land areas, concerned the arbitrariness of the policies, the poor services and the detrimental private projects of the officials in the TRI institutions. There further were complaints about unofficial commissions, levies and deductions, made by the TRI institutions and the local government. The preferential treatment given to TRB entrepreneurs and the usurious practices of the middle men were a thorn in the side of the cane producers who planted cane without TRI credit.

Individual economic strategies were relatively important as ways to protest against these forms of exploitation. It were especially entrepreneurs in Malang's sugar-cane belt who were able to understand the economic and political interactions. They had the capital to distance themselves from exploitative TRI marketing regulations, and had the connections to coordinate activities and influence decisions. Uncoordinated protests could result in exclusion from relatively cheap credit. TRI group chairmen could avoid the exploitation by supplying TRI cane as credit-free cane. Initially the TRI group leaders restricted this to cane owned by their kin, more recently they also do this for ordinary members, who compensate them and the village heads. These actions turned out to be relative effective mechanisms for avoiding or to getting around exploitative marketing relations. Their aggregate effects were being felt by the mills which lost control over large volumes of TRB cane.

The comparison of the cooperatives at the sub-district level showed that they were initially dominated by sub-district and village administrators. These tried to side-line the NU leaders of the original outgrowers' organization, and in the sub-district where they were powerful, managed to incorporate them. However, where the cooperative's leadership failed to follow the TRI credit regulations, either under pressure from their superiors or from the village elites, arrears in the TRI credit programme resulted. These elites figured that they had special rights in regard to the subsidized state credit and probably also thought that the government would convert the bad loans into grants, as had happened in the rice intensification programme. These arrears led to the appointment of new formal outgrowers' leaders, in which in Gondanglegi the TRI group's and cooperative's and the cooperatives members were allowed a voice.

As a result of the arrears, the regional Golkar leaders and the cane entrepreneurs were able to increase their influence over the outgrowers' organizations. In the isolated Bantur sub-district, the coalition of Golkar leaders and cane entrepreneurs avoided bad TRI loans by not favouring the political and economic elites. In Pakisaji and Bantur local entrepreneurs formed new TRI groups and at the sub-district level they represented their private interests as if they were general ones and pressured the cooperative's leaders to cancel policies and levies that worked to their disadvantage. In the Gondanglegi sub-district the Islamic entrepreneurs lobbied for TRI group chairmen who were committed to the outgrowers' interests rather than to those of the formal institutions. Through these new TRI group leaders they indirectly also influenced the election of new committee members and thus the cooperative's policies.

Not surprisingly, only in the KUD Gondanglegi did the debt debacle lead to an open confrontation between the formal leaders' factions. These had their informal connections with different leaders in the political administrative apparatus at the district level, from whom they

obtained backing. The factions disputed about the internal and external organization of the cooperative and about the way the debt was settled. The argument between the committee and the manager resulted in an open confrontation between these factions, but the district level administration prevented a general members' meeting from breaking the impasse between them.

The vertically-oriented TRI institutions and the regional leadership council determine the pattern of interaction at a lower levels in the system, preventing or suppressing conflicts of interest. This is done through the administrative hierarchy. Each year the mills and the cane traders try to informally influence the *bupati*'s decisions about the inter-district cane trade. However, the regional market regulations need to be enforced since the entrepreneurs have both political and judicial ways to change official policies that are harmful to their economic interests. Thus the local government and the mills use the police and military officials to set up check-points. The traders try to form strategic alliances with the fractions in the regional parliament and the military, to generate political pressure on the *bupati* or to obtain informal backing for their open or covered protests.

The strategic coalitions change, however, when the local government's authority is at stake, and there is pressure from above. As the settlement of the cooperative's debts shows, the fractions in the political-administrative apparatus than become an united front with one line toward the factions in the outgrowers' organizations. This is so, because both their political authority and the officials' private interests are at stake. The bargains made by the *bupati* to create this united front remain secret. However, the actors in the political-administrative structure used their central position in the Bimas Executive Board and the regional leadership council (Muspida) to trade political influence for financial gain. The question is whether these gains were the payments that the indebted formal outgrowers' leaders made to prevent prosecution. However this may be, their poorer clients who led indebted TRI groups, were sentenced to up to five years in jail.

11 CONCLUSIONS

Breaking away from the two major paradigms in social science for the analysis of change in plantation systems, the objective of this study was to bridge the gap between micro- and macro-level theories about Java's sugar industry. Using a middle-level analysis about actors' interactions in organizational configurations, this study fills the area between ethnographic and structural/ historical studies of agrarian change.

Since independence the Javanese sugar sector has undergone radical organizational changes. For these changes the study has aimed to provide a comprehensive picture of interrelation between reforms imposed by actors at central level and the initiatives of actors in the sugar production systems in one particular area. For the latter the analysis incorporated local diversity in the mills' hinterland, where the forms of organization and linkages, and related patterns of interaction are associated with local agro-ecological and sociopolitical conditions. It has focused on interactions between cane growers, officials and mill employees at the linkages or interfaces of the integrated sugar production systems in the district of Malang in East Java. Further it has examined how social, economical, and political domains are linked in the interactions between actors in a regionalized production system.

Three specific aims or major research questions have been addressed. First, the analysis of the organizational transformations in Malang's sugar industry, after independence, and the political and economic forces which caused them. Second, the analysis of diversity in agrarian change in the different agro-ecological zones of the mills' hinterland. Third, the analysis of the contemporary organization and its related patterns of interactions at the linkages.

The first aim necessitated a historical analysis of the economic and political processes that shaped the organizational structure of Java's sugar industry. The second aim demanded a comparative analysis of the organization of cane production in villages with different agro-ecological conditions, such as irrigated and dry-land. The third aim needed a multi-level analysis of how central regulations concerning institutional structures and local and regional initiatives influence the concrete forms of organization and interaction and the division of added value between the actors at the linkages of integrated production systems.

This chapter will first focus on the research findings related to the study's specific aims. In the following three sections the conclusions in relation to the three major research questions will be presented. The final section will present conclusions in regard to the study's central theoretical perspective.

11.1 Forces beyond the Restructuring of Malang's Sugar Industry

In chapter three the political and economic forces beyond the organizational changes of the Javanese sugar industry were highlighted, from the colonial period until the early 1990s. It was shown how the nature of its agro-industrial linkage changed from a plantation system to

an outgrowers' one. The political and economic processes at the national and district levels were looked at in chapters three and four so that conclusions can be drawn about the interrelations between the processes at these two levels.

Chinese entrepreneurs and the Dutch colonial government were the architects of the plantation sugar production on communal *sawah* land. During the colonial period Java's sugar had to be sold on the international market and thus market forces played an important role in the technical modernization and the enlargement of scale of the sugar refineries. Through connections with the colonial government the owners and managers of the mills influenced the latter's policies to keep their costs of land tenure and labour low. This competition on the international market declined in importance after independence when the sugar industry produced mainly for the local market - a market later protected by the post-independence governments as part of a sugar price stabilization policy.

Changes in political forces in and beyond the sugar production systems have had a major influence on the industry's organizational structure. Before independence, the colonial government suppressed local political and interest organizations in the sugar industry. The government's policies only changed as a consequence of political change in the Netherlands, where humanitarianism gained influence at the expense of conservatism. The former had different ideas about the state's role in the economy.

The increased political influence of liberal associations caused the state to transfer its responsibility for cane production and the marketing of sugar to the private sector. The state henceforth concentrated on the provision of public services, such as infrastructure and education, and on the institutional development of social and legal services. For public funds the colonial state no longer relied on revenues from the export of sugar, but rather on taxes levied on the private sector. Furthermore, the state provided political and administrative support for the mills' managers, which was crucial in obtaining land and labour cheaply, and in preventing rural unrest in the mills' hinterland. The increased influence of Christian organizations in The Netherlands caused the colonial state to pay more attention to the interests of the local labourers and land owners in its role as mediator with them for the mills.

The end of the colonial era led to a new configuration of political organizations in and beyond the plantation systems. Nationalist, Islamic, socialist and communist parties all had distinct ideas about the organization of the economy and the nature of the post-independence state, which in turn had implications for the sugar industry. With the exception of the leftist ones, all the parties wanted to reorganize the organization of the linkages between the mills and the communities in their hinterland. The parties also wanted to Indonesianize the foreign-owned business sector, and to this end organized interest groups within the sector, such as the senior staff, labourers, landowners and the outgrowers.

After independence, political manoeuvres at the national and regional levels led to the nationalization of the foreign-owned sugar industry. This in turn led to changes in the ownership and management structure in which especially military and government officials increased their influence over the industry, although this had few consequences for its agro-industrial linkages. Some districts were an exception to this because farmers there had been in sugar cane production longer. Mill-managed sugar cane production on *sawah* land rented from peasants, continued to be the dominant organizational form.

After the New Order Government had been in power for ten years, it decided to transform the structure of the Javanese sugar industry from the much resented estate form to an outgrowers' one. For the linkages at village level this implied the replacement of coercive land tenure and wage labour arrangements by credit and marketing agreements with

individual landowners who grew the cane themselves.

This reform programme, known as the TRI programme and carried out with assistance of the World Bank, gave the administrative agencies a central role in the planning and coordination of the sector. The New Order government introduced a corporate institutional structure for the planning and coordination of all government agencies and farmers' organizations involved in the Javanese sugar industry. Within this structure, the authority and responsibilities of the economic and political actors are outlined and a balance is sought between centralized political decisions, and a regional adaptation and implementation of the technical and administrative regulations. The TRI institutional structure also provides the political-administrative apparatuses at provincial and district level with mechanisms to direct the negotiations between economic actors.

Thus, decolonization led to the severance of Dutch influence over Java's sugar industry. The data presented here confirm the general structural changes described by Kemp and Little (1987) for the Javanese sugar industry. However, after the 1965 coup, the political organizational structure within the post-independence state again changed radically. The administrative structure, backed by the military, gained a central role in coordinating political and economic processes at the national, regional and even the village level. After the elimination of the left, it imposed corporate rural institutions that were controlled by the New Order government's allies at the village level and were to promote rural capitalism and prevent the reemergence of horizontally oriented organizations.

The sugar industry had been a leading agro-industry in the Malang district since 1910. The district was a frontier area in the nineteenth century and developed into a leading agricultural region where both indigenous and foreign entrepreneurs became involved in cash-crop production and processing on their large farm and estate holdings, particularly in the newly opened dry-land areas of South Malang.

In Malang's sub-districts different patterns of agricultural development emerged according to agro-ecological conditions, the dominant economic activity, the system of land tenure and the political structure. In the colonial era Javanese communities in the *sawah* areas cultivated irrigated rice and had communal tenure, while the aristocratic elites and their local stewards (village heads) occupied a central position in the political structure. In the dry-land frontier region the political arena was dominated by Muslim landlords, and smallholders cultivated secondary food crops while some owners of large holdings already planted sugar cane on individually owned land. In the estate communities, foreign planters and their agents dominated the local political scene and leased land for long terms from the colonial government.

Decolonization has had various impacts on these three sociopolitical environments. In the long-established Javanese communities, the nationalist party gained support among the *priyayi* and the village elites. The village chapters of the political parties attempted to recruit local support through horizontally oriented cane growers' and cane workers' organizations, promoting their interests with the mill managers. In more recently established communities in the dry-land area, the landlords and *ulamas* consolidated the vertically oriented Muslim (NU) organizations and prevented the leftist parties from gaining a foothold. In the estate area various gang-like factions, linked to political and social organizations at supra-local level, struggled to influence the redistribution of the estate leaseholds, now held by squatters.

These regional political organizations had little impact on the ownership structure of the industry, but did influence the pattern of linkages. The Old Order government had nationalized the Javaasche Bank and had confiscated Oei Tjong Ham Concern's property, as a result of which both Malang mills became semi-public enterprises. The landowners,

however, especially in South Malang's irrigated *tegal* area, who produced cane on their large farm holdings, refused to rent land for mill-managed cane production and opposed the mill's involvement in organizing the cane harvest. They thereby forced the mills to organize their sugar production largely on an outgrowers' basis.

The sociopolitical environment in the mills' hinterland influenced the organizational form and the interactions at the linkages. The associations affiliated with the radical parties promoted horizontally oriented organizations for outgrowers' and estate workers, while the one affiliated with the conservative Islamic NU favoured vertically oriented ones. The former started cooperatives, while the leaders of the latter founded a company through which they monopolized the linkage between the outgrowers and the mill.

Between 1962 and 1975, a transitional period, major changes occurred in the sociopolitical environment as well as in the organizational structure of the linkages. Before the 1965 coup, the Malang mills and the outgrowers' organizations experimented with new institutional structures, for which the national administration provided the judicial framework. Both Malang mills and their outgrowers' organizations established connections to the political administrative agencies at the national level in order to influence national policies and regulations. In addition, traders, particularly in PG Kabet Baru's hinterland, set up parallel networks through which they bought sugar cane and sugar certificates from outgrowers, and sold sugar on the national market.

After the 1965 coup, the New Order government radically intervened in the mill's hinterland's sociopolitical environment by forging an alliance with conservative factions in the political organizations, and by destroying the leftist groups and organizations. This also affected the interaction between persons in the institutional structure, because factional struggles at the village and sub-district levels disappeared. Outgrowers' organizations affiliated with political parties had been amalgamated with government controlled rural institutions, recruiting their local leaders from among the government's GOLKAR organization or persuading NU farmers' leaders to shift their allegiance there as well.

Thus, particularly during the early years of the Old Order government, regional farmers leaders, affiliated with the different political parties, created outgrowers' organizations that had both political and economic objectives, i.e. enlisting support for a national party at the village and regional levels and influencing the pattern of the linkages and protecting the outgrowers' interests in their marketing relations with the sugar mill.

For the interconnection of political and economic processes at the national and regional levels, the political parties at both these levels tried to raise popular support for their ideas on restructuring the colonial sugar system. The national political-administrative apparatus supported outgrowers' forms of cane production and issued central regulations and policies promoting this. The study showed that it relied on regional initiatives by cane growers and mill owners to develop outgrowers' forms of cane production. The Malang district was one of the few regions where owners of larger holdings were experienced in growing cane. They were also aware of their interests and organized to defend them in negotiations with the mill managers and the political-administrative apparatus.

The data about the sugar sector presented here confirm Hüsken's ideas about the restructuring of the New Order government's rural development approach. After the 1965 coup and the elimination of the left, the New Order administration took control of the sector's institutional structure and the outgrowers' organizations, created room for regional adjustments of the credit and marketing policies, and above all placed its trust in the entrepreneurial initiative of the rural elite. In doing so, it created room in their top-down agricultural development programmes for local initiatives, and rewarded the village elites for

their political loyalty and economic initiatives.

11.2 Local Diversity in the Organization of Cane Production

For the second research question, three villages were selected in the major agro-ecological zones where farmers cultivate sugarcane: the *sawah*, the irrigated *tegal*, and the dry-land zones. In this section conclusions will be drawn about the connection between the agro-ecological conditions and the organization and social relations of cane production at the village level. Exploring local diversity, I emphasized the agrarian structures and the organization of sugar cane production, covering both land and labour relations, and also credit and marketing relations.

Large differences exist in the farm-size distribution of the cane producers of the communities cultivating land in the different agro-ecological zones. Historically the production potential of these different zones, in combination with particular settlement patterns and agricultural development processes, has led to different product lines, which in turn had repercussions for the system of land tenure and the sociopolitical environment.

This raises questions about the initial product lines, the agrarian structure, and the introduction of sugar cane in the three agro-ecological zones. The villagers in Dadapan's *sawah* zone were organized around irrigated rice production, which had a specific impact on the local political and agrarian structure. The elected village head was the central authority, mediating between the community and the supra-local authorities. He allocated the communally owned *sawah* holdings among the descendants of the village's founders. The villagers had little interest in organizing cane production themselves because their farms were not large and the productivity of irrigated rice in the *sawah* area was high. Until recently externally coordinated linkages remained the dominant pattern for cane production there, supported by the political structure and the communal tenure systems.

This situation contrasts with the irrigated *tegal* area in Malang's sugar cane belt, where owners of large holdings dominated the sociopolitical environment. These owners themselves introduced cane production because agro-ecological conditions suited the crop, which they already had cultivated in their area of origin, and brown sugar was more lucrative than secondary food crops. The cane's technical characteristics also suited the landlords, who could easily manage large cane areas, and process the cane into brown sugar using bounded labour. Much later smallholders also shifted to sugarcane production when cane brought higher net cash returns than food crops did.

Farmers in the isolated dry-land areas also shifted to cane production much more recently. Some landlords introduced cane and brown sugar production. After solving the problem of transport, these landlords could sell their cane to the mills. The mills and the local government actively promoted its expansion where local entrepreneurship was still weak. This promotion was part of a national strategy to shift cane production from *sawah* to *tegal*, and regionally to make more cane available in the district, after the expansion of the mills' capacities around 1976.

In the *sawah* area irrigated rice production contributed to a relatively level agrarian structure causing the farmers to not be interested in growing cane; the mill therefore leased the major share of cane land through the village head. In the dry-land area of Dadapan, land-ownership is uneven because some patrons have succeeded in acquiring large holdings. Further, local and regional patrons leased land from poor and indebted smallholders, skewing the farm-size distribution even more. Particularly in Dadapan, the mill and regional

entrepreneurs off-set the shortage of local entrepreneurs by organizing externally coordinated cane production units.

In the irrigated *tegal* area both cane-growers' land ownership and farm-size distribution are skewed. Several local and regional cane entrepreneurs control large holdings that may be scattered over several villages. More recently the skewedness of the farm-size distribution decreased because of smallholders have developed entrepreneurial skills and strategies to compete in leasing absentee landlords' land.

In the *tegal* areas of Pakong the transformation of the former estates, in combination with commercial cane production, has led to a very uneven agrarian structure and a skewed farm-size distribution among cane growers. Here the local elites, using their political power, influenced the distribution of the estate lands. This was distorted even further because the local patrons, who were the first to be involved with cane, succeeded in accumulating capital and thereby acquired large farm holdings.

The data presented shows that Geertz's (1963:97) observation about the absence of processes of social differentiation in Javanese village society has only limited relevance for typical *sawah* areas. Rice production, the system of land distribution and heavy land taxes on communally owned wet-land have had a levelling impact on agrarian structure. After independence the transformation of land ownership systems, the commoditization of agricultural production, and the development of local entrepreneurship have contributed to processes of social differentiation. In the *tegal* areas, particularly in the limestone area, some cane patrons have succeeded in obtaining control over large holdings. The management skills of individuals have played a central role in the disintegration or expansion of the kinship or family enterprises of the village oligarchy.

Turning to the question of the organization of cane production, we have seen that the presence of local entrepreneurs was very important. In Dadapan the majority of the farmers were subsistence production-oriented and external entrepreneurs took the initiative in cane production. The mill did so in the wet-land area, and regional entrepreneurs in the dry-land areas. This contrasts with the irrigated *tegal* area, where both the entrepreneurs and smallholders have shifted to commercial cane production and externally coordinated production units were nearly absent. The situation in the Pakong dry-land area resembled that of the dry-land zone in Dadapan. Here, however, local patrons were more successful in competing for cane holdings with regional entrepreneurs.

As we have seen, the farmers' awareness of the impact of the linkages on their economic opportunities, is very important. For the patrons the pattern of linkages was a central political issue. Owing to market forces, and because refining technology was too alien for them, the cane farmers had to accept the externalization of cane processing from their farms to the mills. Consequently they opposed any involvement by the sugar mills in the growing and harvesting of cane. They formed associations to protect their economic interests in the linkage with the mill, and economically they competed with non-resident entrepreneurs who limit their economic opportunities in either cane production or trade. Smallholders in Dadapan were aware that rice was economically the optimal crop for the *sawah* area. Those in Sidodadi found that cane still is the optimal crop on irrigated *tegal*, only horticultural crops can bring higher returns. Smallholders in the *tegal* areas benefited least; for them the risk of shifting to cane were too high. Many of them had to lease-out their holdings due to the disturbance of their subsistence farms by the cane expansion policies of the mills and the local government, which has turned them into land owning cane workers.

The internally and externally coordinated cane production units have different

organizational forms. For the internally coordinated cane production units, a division was made between smallholder family farms, smallholder farms, patron enterprises, and overseer production units. The smallholders (*petani tebu*) engaged either only family labour, or both family and wage labour, and the patrons (*juragan tebu*) used mainly wage labour. Where in these three sub-categories the cane owners also technically manage production, in the fourth sub-category this has been delegated to a local overseer. Also, the management of externally coordinated production units was delegated to overseers, although the mill and the regional entrepreneurs (*cukong tebu*) did the technical management themselves; the former through a hierarchy and the latter via the negotiations of the labour contracts.

One difference between the mill and the outgrowers was that the mill aims at maximizing sugar yield per hectare while outgrowers maximize cane yields. The mill uses the capital intensive Reynoso production technology in the *sawah* zone because that system results in a high cane yield and a high sugar content. The outgrowers maximize cane productivity and, because of the mills' system for fixing the sugar content, have a critical interest in the cane yield and in the timing of the harvest. The mills decided when the cane was harvested and gave the outgrowers an average sugar content that was fixed in advance for half-month periods. This system made the outgrowers concerned about the cane yields but careless about its sugar content. Production units coordinated by the brokers and regional patrons compared the internal rate of return on investments in cane production with that in the cane trade. They then extensified their cane production and increasingly concentrated on ratoon cane in the isolated *tegal* areas.

In the internally coordinated production units, poor smallholders, particularly those in the isolated *tegal* areas, who lacked capital and were engaged in wage labour, inevitably used an extensive production strategy. The smallholders and the patrons, particularly in the irrigated areas, had acquired the technical knowledge through experience and connections with the mills' technical staff. They tried to maximize cane production from their resources, using a capital intensive ratoon production system and by rejuvenating their cane more frequently than the brokers and commercial entrepreneurs did.

The data presented here confirm that the distinction made by Van der Ploeg (1986) between 'economic' and 'technical' efficiency of farmers, is also relevant for the major sub-categories of cane producers. However, Van der Ploeg (1986) does not cover the production styles practised by poor smallholders and the mill itself. Poor smallholders lack the capital to use new technologies and have 'survival' strategies. For mill-managed cane production the absence of agro-industrial linkage creates a perception of efficiency based on the end product (sugar) rather than on the raw material (sugarcane).

This brings us to the impact of the pattern of linkage on the social relations of cane production. For the internally coordinated production units, credit and marketing relations are the linkage to the sugar mills. For externally coordinated ones, land and labour relations are the linkage at the village level. For mill-managed cane production there are no marketing relations, while the regional entrepreneurs and the brokers get their capital from banks and individual money lenders and therefore only have marketing relations with the mills. The organizational forms of cane production, therefore, not only influence labour relations, but the pattern of linkage as well.

Just as during the colonial period, the mill still relied on local government officials to mediate access to the land of local landowners. The regional entrepreneurs established this through their local agents and maintained them if desirable through money lending. The economic power of the mill and the regional entrepreneurs gave them a dominant position in the local land market. However, the use of coercion by the mill's mediators caused

political tensions at the village level, which contrasted with regional entrepreneurs, who used money lending to create situations of voluntary bondage.

The mill and the brokers delegated the responsibility for the labour relations to their overseers and foremen, in exchange for financial gain. These caretakers acting as labour brokers tried to avoid any responsibility for social care services. They increasingly used piece-rate or lump-sum labour contracts with advance payments for the heavy field operations done by men, and continued to pay daily wages for the lighter tasks done by women, which required more intensive supervision. Regional patrons increasingly used single-stranded labour contracts, which led to more open negotiations with the cane workers and to advance payments in order to decrease the risk of labour shortages during peak labour periods.

Among internally coordinated production units, land and labour relations differed for each organizational form. The smallholder family farms relied on their own land and labour resources. In the *tegal* area the smallholders were increasingly involved in the local land tenure and labour market, competing for cane land with the wealthier cane growers. They raised capital in various ways and recruited their wage labourers among their kin and contiguous networks, paying them daily wages that conformed to local norms. Social care arrangements were organized within kinship and neighbourhood networks.

The local patrons, particularly those in the isolated *tegal* areas, differed from the commercial smallholders. The patrons had teams of permanent cane workers who cut their cane during the peak period of the campaign, and who gave priority to their patrons' labour contracts. Palte's (1989:218) argument that poverty sharing mechanisms are negligible in the *tegal* area is inaccurate, at least for the cane areas. The patrons had multi-stranded relationships with their cane workers, and their wealth and social status required them to provide social services to both their kin and to permanent cane workers. However, in accessible areas a local labour market emerged, because local patrons increasingly turned from multi-stranded relationships to single-stranded ones as a strategy to avoid social claims by their client cane workers. They did this by recruiting labourers in other villages, or justifying the transformation of the patron-client relation into a market one.

The findings of this study confirm Hüsken and White's (1989:258) observations about occupational multiplicity, especially in the hinterland of the urban areas. In all villages cane patrons had diversified into nonindustrial forwarding operations, like transport, commerce and finance. For smallholders in Dadapan and Sidodadi, non-farm activities also became increasingly important sources of income. This had repercussions for agriculture, as smallholders shifted to more labour-extensive crops, such as ratoon cane.

For the hinterland of the urban economies, this study also confirms Breman's (1995) argument about short-term labour contracts and the erosion of the social aspects of patron-client relations. The administration, however, has made formal types of social security only available to the civil servants, leaving many without a safety net. In response the Muslim NU organization has attempted to revive social services through Islamic contiguity networks. In the isolated *tegal* areas, kinship and patron-client networks continue to provide some security, although the arrangements to redress the sharply unequal distribution of wealth are of little relevance there.

Turning from the production to the circulation sphere, mill-coordinated production units had no marketing relations at the village level. It was noted that the formal outgrowers' organizations and the unofficial brokers' networks play a central role respectively for TRI and TRB cane grown by outgrowers. The cooperatives and TRI groups coordinate the distribution of subsidized TRI credit. The brokers try to trade free TRB cane, for which the growers received no official credit, by laying claims to this cane through money lending and

trade arrangements.

Local patrons predominated in the TRI groups in the isolated *tegal* areas, in contrast with the irrigated areas where local patrons were too busy with their own enterprises. As a result, the local patrons in the dry land areas, and the village heads' clients in the irrigated area, directed the distribution of TRI credit. The latter were discredited as the formal outgrowers leaders through mismanagement of the funds and abuse of power. The TRI institutions in some sub-districts then allowed the outgrowers to select new local leaders, which in Sidodadi resulted in alliances between smallholders and patrons, replacing the village head's patron-client network with a contract TRI group. The outgrowers elected knowledgeable smallholders into office, who were committed to improve the services to the members and to support outgrowers' interests rather than government policies.

The regional entrepreneurs' and brokers' cane production networks were also useful for cane trade. Local cane patrons engaged in cane trade had connections with the cane commissioners in the Malang district. They traded on their own account, borrowed working capital from commissioners, or acted as brokers' local agents on commission or on a profit sharing basis. Regional entrepreneurs and brokers, as well as local patrons also obtained loans from commercial banks. In this way, the local patrons in the *tegal* areas not only had connections with the outgrowers' organizations, but with the parallel brokers' networks as well.

The TRI institutions provided sufficient subsidized credit for the irrigated areas, but limited it for the dry-land ones to reduce the risk of bad debts. As is clear from the Sidodadi study, the patrons in Malang's sugarcane belt ignored subsidized TRI credit, obtaining funds from commercial banks and brokers instead, to prevent any claims on their cane by the TRI authorities. In the irrigated area, smallholders obtained good services from the TRI groups. In the dry-land areas the cane patrons distributed the official credit, favouring their own economic interests. Smallholders in the dry land area, who urgently needed the TRI credit, had to accept the TRI chairmen's private conditions. In the three sub-districts covered by this study, the outgrowers' organizations were too late in distributing fertilizers and some withheld TRI credit from the outgrowers.

The smallholders relied on subsidized state credit and thus were easy victims for TRI officials who thought that they were entitled to gain financially from these public funds. The patrons could afford to borrow money from private, commercial banks and in this way protected themselves from the market regulations' negative consequences, such as losing control over the timing of the harvest and thus the sugar content, and the official and unofficial levies collected by TRI institutions.

In all three villages tensions existed between TRI policies and the cane growers' interests. As the study showed, the brokers built up their trade networks using these tensions. The TRI's hierarchically imposed bondage of marketing regulations to credit relations ignored the interests of the cane growers and the economic elite used legal arguments to get around the rigid official institutional structure. The traders negotiated TRB cane marketing contracts with the mills' managers, and supplied it through their highly flexible networks, especially when the sugar content in Malang remained behind of that of non-Malang mills, or when the cane supply to the Malang mills stagnated.

The village studies showed the importance for internally coordinated production units of connections to persons at the supra-local level. Commercially-oriented local patrons and smallholders were the local experts on land tenure and labour arrangements. For their production and marketing strategies, however, they needed contacts with persons who could inform them about the technical, political and market matters. They needed this information

to experiment and to compare interest rates and marketing conditions so that they could manage their farms commercially. Actors in the TRI institutions as well as those in the informal TRB brokers' networks were able to provide them with this information as well as help them to use loop holes to get around exploitative market regulations, or to prevent being cheated by TRI officials.

The mill and the brokers were experts in the marketing relations at the supra-local level, but needed connections with well-informed and influential local persons without whom they could easily be cheated in land tenure, labour, credit or marketing arrangements. Thus they arranged for the village elite to act as their local agents or support their economic activities locally. The local elite could also use their political and legal powers to solve their problems, or to let outsiders feel how dependent they were on them to settle conflicts of interest or to protect them from being cheated.

The village studies have given us an understanding of local diversity in a regionalized sugar production system. Certain product-lines, local power and agrarian structures correlated with the agro-ecological zones. It was the agrarian structure and the presence of local entrepreneurship that influenced the introduction as well as the organization of cane production. Technically, cane is well suited to the irrigated area, but its competition with other crops and its responses to economics of scale caused owners of large dry-land holdings to prefer it, whereas smallholders in the *sawah* area were less enthusiastic. As a result, the mill and the local government used financial incentives to direct the former, but had to use persuasion to convince the latter to grow cane.

Commercial cane production accelerated processes of differentiation, particularly in the *tegal* area. However, when smallholders could solve their capital constraints they could also hire land and labour and follow the patrons' example. However, the latter as early starters diversified the economic activities of their enterprise and expanded them into the remote, newly opened cane areas. The capitalist rural economy increasingly led to conflicts about norms in the social relations of production, and tensions about the growing differentiation of wealth at the village level. It is therefore not amazing that in all three villages religious leaders, who owned small holdings, played a central role in leading the farmers' and outgrowers groups.

11.3 Patterns of Interaction

To summarize the conclusions about the patterns of interaction at the linkages, we must first focus on the organization and the relations of the three major parties in the sugar industry, and then shift to the interactions between the vertically and horizontally oriented organizations within it.

The administrative apparatuses play a central role in coordinating and planning of sugar-industry. At the centre there are the corporate sugar board (DGI), in which the publicly-owned sugar industry and the official farmers' organization (HKTI) participate in making political compromises about the market regulations and the share milling arrangements for outgrowers' cane. The government uses the official Bimas institutional structure to coordinate its agencies involved in the planning and coordination of the multi-partite TRI outgrowers programme at various administrative levels. In addition, the administrative apparatus especially at district level influences the organization and policies of the HKTI, the cooperatives, and the TRI groups.

The administration as well as the sugar companies are hierarchically organized, but the

mills have ways to shorten the internal communication lines. In hierarchies, important decisions are often referred upwards to superiors which requires time and leads to distortions of the information. To prevent problems in coordination, the sugar industry minimized the number of internal linkages; for example the mill managers communicated directly with the managers at the central office who were responsible for the cane marketing policies. In addition, the mill promoted efficiency by using a network type of incentive system for its staff to foster mutual responsibility and flexibility at the bottom. Finally all staff levels up to the field supervisor (*sinder*) participated in the mills' evaluations of the crushing seasons.

Part of the negotiations between the major parties in the TRI institutions took place within informal networks. The leaders of three major parties usually did not participate in the preparation of decisions but rather directed their subordinates who did the negotiating. Only in the final stage would the leaders participate to formalize the results. Personal and electronic networks were used to keep superiors informed about the progress of the negotiations. These networks had the additional advantage of keeping communications secret, which was essential for the coordination of commercial strategies and of informal deals, in which large financial interests were involved.

In the TRI institutions, the sugar companies had to form strategic alliances with the administration and the leaders of the outgrowers' organizations. The mills depended on the administration for the enforcement of the official TRI credit and marketing policies. The administration also could influence the formal outgrowers' organizations' policies. This explains partly why the mills ignored the unofficial projects of the formal outgrowers' representatives' and the government officials using TRI funds. They did that in exchange for the latter's support of the mills' production targets, their sugar content estimates and the harvest systems.

By not participating in the TRI credit programme, the entrepreneurs prevented the officials of the TRI institutions having any say over the harvest and marketing of their cane. These knew that they receive the highest net returns from the cane when they harvested it themselves during the months that the sugar content was high. Regional cane brokers and contractors mediated between them and the management of the mills in and outside the Malang district.

Shifting to the informal linkages, brokers coordinated parallel trading networks, particularly in Malang's sugarcane belt. They made arrangements with local care-takers, who managed the cane holdings for them. They also had contracts with local agents, who operated as their intermediaries in the cane trade and they lent money to cane entrepreneurs, which these repaid with cane. These brokers stood at the centre of extended but flat networks, through which they tried to control free cane, but minimize the linkages. These brokers negotiated cane marketing contracts for free cane with the mills' management, whenever the latter feared cane shortages. To prevent tensions with the TRI institutions, the mills channelled these contracts through the formal marketing chain. The brokers cooperated among themselves in handling large bulk supply contracts, and in the negotiations with the administration to obtain cane transport documents.

Since cane surpluses occurred in the district, the political-administrative apparatus could exchange political power for financial advantages by shifting allegiance between the mills and the cane contractors in the implementation of its cane trade policy. Both the mills and the traders' profits depended on the political-administrative apparatus's cane trade policies, and both were willing to offer financial advantages since large monetary interests were involved. The mills were interested in developing a more structural solution to the export of TRB cane and therefore paid attention to the grievances of well-informed cane patrons against the TRI

programme. They formed strategic alliances with the entrepreneurs, who controlled large cane areas, to force the outgrowers' organizations to reduce the levies they charged on cane. For that purpose the mills introduced a new TRB cane marketing contract, for which they had to manoeuvre between the officials' and the cane entrepreneurs' financial interests. The latter pressed the cooperative leadership to pay more attention to their economic interests both through the cane market and at the annual meetings.

Thus, for fifteen years the TRI institutional structure based the agro-industrial linkage in the Malang district on regulations from the centre. Well-informed cane growers and brokers, particularly in Malang's sugar belt, tried to find judicial and political loopholes in the marketing regulations by which they felt cheated. Their grievances were based on the financial consequences of the tripartite strategic alliance in the TRI programme in which the mills controlled the cane supply and the system to fix the sugar content, and the formal administrative and outgrowers' leaders had their informal income from coordinating the subsidized credit and the supply of TRI cane.

As has been shown, individual economic strategies, such as non-participation in the TRI programme, were significant ways to get around the exploitative TRI marketing relations. Their aggregate effect was most intensively felt by the mills, which lost control over large volumes of TRB cane. Where the leadership of the cooperatives, under pressure from superiors or village elites, failed to strictly implement the TRI credit regulations, arrears occurred in the TRI programme. When these became structural the central administration forced an investigation by the provincial and district governments. As a consequence of central regulations and the investigations, the leadership of indebted cooperatives and TRI groups was reorganized, resulting in coalitions between the informal outgrowers' leaders and disappointed smallholders, that selected leaders committed to outgrowers' interests.

One consequence of the bad loans was that the regional leadership of the New Order government's political party (GOLKAR) had to tolerate an increased influence of cane patrons in the cooperatives' leadership. Together with national policies for dealing with corrupt leaders of cooperatives, the entrepreneurs managed to restrict the formal leaders' scope in settling the bad debts. In the core area of Malang's sugarcane belt this led to discussions about corrupt practices within the cooperative, which in turn led to open confrontations between factions in the cooperative's leadership.

One faction, which presented a narrow, egocentric view of the outgrowers' interest, became involved in a dispute with the informal outgrowers' leaders. Both had kinship and informal connections to the district's leadership council. With the consent of these acquaintances, the factions struggled for control of the cooperative and its policies. Both also mobilized their networks into action-sets at the village and sub-district levels, contacting the TRI group leaders, village heads, and well-informed cane producers, and undermining each others' prestige and activities. Open confrontations occurred between the chairman's and the manager's factions, when the chairman sacked the manager. The administration intervened and prevented a members meeting from being organized to break the impasse.

The political-administrative apparatus' room to manoeuvre in the regionalized sugar production system is restricted by the TRI institutional structure, but also by actions of the village elites. Madurese and Javanese cane traders and informal outgrowers' leaders could mobilize their networks for coordinated actions that harmed the political leadership's *imago*. By their demands, the entrepreneurs caused trouble both to the leaders' political interests and the economic interests of their strategic alliance with the mills and the formal outgrowers' organizations. In preparing the TRI credit for the 1991/1992 season, the political leadership council constrained the interactions within the formal outgrowers' organization through

political and legal strategies. They also tried to enforce their cane marketing regulations with road blocks, staffed by police and the military.

However, the TRI institutions and the administration made sure that their policies did not conflict with the economic interests of the village elites, on whom the formal institutions relied for the realization of the government's development policies. One consequence was that the economic interests of the poorer cane growers were sacrificed. Poor smallholders depended on TRI credit and therefore had to hand over the timing and organization of the cane harvest to the TRI institutions. Furthermore, the political leadership council protected the local government and outgrowers' leaders, allowing them to settle their bad debts informally rather than have them become public. These policies illustrate the perception of the political administration about the agrarian community. Rather than educating poor smallholders' through participation, they attempt to force their compliance with central regulations, with the assistance of the village elites.

Benvenuti's (1975) argument about administrative and technical regulations in Malang's sugar production systems is only relevant for mill coordinated production units in which the mill directs both the production technology and the financial administration. But officials in the TRI institutions failed to regulate the technology used by the outgrowers. The mills' extension workers mainly passed on their technical information to the TRI group leaders, because they were primarily concerned with cane area targets and the administration of cane. Only in the isolated *tegal* areas did some patron TRI chairmen decide on the technology used by cane growers to whom they provided TRI credits. The mills' and cooperatives' officials major concerns were production targets, the administration of credit, and the cane marketing regulations.

The study has given insights into what Schweizer (1989:304) has called 'the commercial mode of interaction' in the linkages to supra-local level. Where Schweizer focuses on the actors' motives, this study has shown that the linkages between the village and sub-district levels were shaped on the one hand by the agents of external actors, such as the local government, mills, cooperative and brokers, and on the other by local actors who represent the community at the supra-local level, or by outgrowers who have established commercial contacts with the cooperative, brokers and banks. The patterns of interaction were mainly patron-centred.

New patterns developed when a new generation of village leaders emerged. The elections of the village heads in Dadapan and Sidodadi, and the TRI group and cooperative leaders in the Gondanglegi sub-district showed that informal leaders moved against formal leaders who abused their power and gave the sub-district a bad reputation. Where the old formal leaders tried to influence the villagers' behaviour by issuing commands, the new village heads and TRI group leaders used more consultative methods, as a consequence of contracts they had with the coalitions that had voted them into office.

The encounters in KUD Gondanglegi also showed that formal organizations and informal networks formed the connections between the sub-district level and the political administrative apparatus at the district level. Aside from the TRI institutions, the administration, the mills, the Muslim NU organization, and the Golkar and PPP political organizations also have their internal organizational structure leading into the villages. Actors at the village and the sub-district levels used kinship and commercial connections at the district level as well as social and political organizations to discuss economic and political issues related to their economic interests. These informal networks are effective for negotiations and lobby activities.

Glover (1984) thinks of contractual relations as bipartite arrangements based on a

conjunction of economic interests. The inventory of the operational units of production and the intermediate forms of cane marketing has shown that the linkages were much more complex than Glover conceptualized. Both operational cane production units and the organizational forms of the linkages varied widely. The study showed that the smallholders bound themselves for the marketing of their cane because of capital constraints. A proportion of the entrepreneurs ignored the arrangements because of distinctive economic interests, and another proportion entered into the arrangements knowing that they could manipulate them. Beside the formal TRI cane credit-marketing arrangements, brokers developed informal trade networks in which they bought 'free' cane from farmers and sold it through marketing contracts to the mill.

The study showed that the conjunction of economic interests has to be analyzed on the basis of the sector's organizational structure and the value-added chain of sugar production. The sector's institutional structure is ideologically based on a conjunction of economic interests between the mills and the outgrowers, which in practice only exist for the producers' sugar price and in reducing the risk of cane shortages or oversupply. The conjunction of the outgrowers' interests in the linkage with the mills is based on the share arrangements of the mills' gross cash income from the cane's end products. The conjunction of the economic interests of the entrepreneurs is based on keeping the costs of renting land, labour and capital low, and the returns on cane high. Since the government prescribes how cane workers and outgrowers can formally organize themselves, as a strategy to prevent encounters between horizontally oriented associations and vertically oriented cane and sugar production regimes, only well-informed actors organize ad-hoc around conjunctions of their economic interests. The commercial entrepreneurs acted as a strategic group, but the study showed that they usually compromised on the entrepreneurs' interest rather than those of the outgrowers.

White (1992) argues that in the institutional structure relative sociopolitical bargaining strength rather than supply and demand interactions determines the division of the added value. This study showed that at the national level, strategic groups like the sugar industry, the formal trade-union and farmers organizations, and even the World Bank, tried to influence the political-administrative apparatus's decisions on producers and consumers sugar prices. The study also showed that these national level decisions led to a new round of negotiations between the actors at most of the linkages in the value added chain of sugar production. But these negotiations were interwoven with long standing issues about changes in the sectors' organizational structure and in the socioeconomic relations that effected the division of added value between the economic and political actors at the linkages in the product line.

The study showed further that supply and demand interactions were quite importance for the informal TRIN and TRB bulk supply contract linkages in the regionalized sugar production system. Actually the entrepreneurs wanted the market mechanism to replace the hierarchical TRI institutional structure in coordinating the mill-outgrowers linkages. These entrepreneurs had already developed effective strategies to protect themselves from surplus extraction by what White calls 'sociopolitical predators' in the TRI institutional structure, just by ignoring TRI credit.

11.4 Raising Cain within the Sugar Production Systems

The last section of this final chapter concerns the major methodological and theoretical

implications of the study. The nature of the interactions in both the informal networks and the formal institutional structure posed methodological problems in collecting information about them. Sometimes the actors in dyadic relations gave similar presentations of the negotiations and transactions, but more commonly they differed considerably, causing the researcher serious problems of interpretation. To questions that explored power in the pattern of interactions the actors often gave ideal-model answers that indicated the desired situation rather than the actual one, reflecting the impact of long standing hierarchical structures on the relative powerless. They feared to communicate their subjective experiences, expectations and strategies in the social networks of cane production to an outsider. But also, key informants and key actors regularly said 'let bygones be bygones' and 'it is not necessary for a Dutch outsider to know the details of these events or practices.'

Luckily the conflicts in the KUD Gondanglegi provided an opportunity to obtain information about the interactions between the actors in the formal institutions and the informal social networks. These actors gave their situational analysis of the organizational and conceptual constraints at the interface, as well as their perception of the motives and strategies of their opponents. It was very difficult, however, to verify charges of involvement in manipulations and informal projects, made against opponents. In the study it was regularly necessary to speak of rumours (*kabar angin*) or feelings of being cheated (*merasa ditipu*), which were confirmed by several persons without anyone offering definite proof. These phenomena were no longer merely rumours or subjective experiences, but rather had become social facts in the Durkheimian sense (Durkheim 1938:1-13).

'Linkage' forms a central concept in this study. Hirschman (1981) relates the potentials for linkage in an agricultural product line with the agronomic and technical characteristics of production and processing of a specific crop. Earlier I showed that cane growers used various cane production techniques in the *sawah* and *tegal* areas, and that producers selected their technology on the basis of their management strategies for the available resources. Entrepreneurs in the dry-land areas liked the crop because it was relative labour extensive and less sensitive to erratic rainfall. In addition, the entrepreneurs could spread the labour intensive field operations over a longer period and sub-divided their cane enterprise into several operational labour units, which made it easy for them to manage large holdings, scattered over several villages.

Hirschman's argument that cane has to be processed close to where it is produced is not fully relevant for the Malang district. Since the turn of this century the managers of mills from other districts have bought and transported Malang's cane to their refineries. More characteristic of cane processing is that economics of scale have resulted in capital intensive sugar refineries, which have to operate full-time for 160 days or more. For that period the mill managers have to secure the supply of the daily required amount of cane, which easily leads to constraints at the start and end of the crushing season, and consequently opens new opportunities and thus influences the nature of the linkages.

The study showed that the central government tried to coordinate the linkages in the sugar sector through institutional, macro-economic, and credit and marketing policies. In the institutional policies a compromise was sought between central regulations and policies, and a relative autonomy of the district administration to adapt these regulations and policies to regional conditions. At the district level the administration coordinated the agencies involved and adjusted the policies for implementation to the regional agro-ecological and socioeconomic conditions, and to the specific production targets of the mills in the region.

The sugar companies were organizationally best equipped to influence the functioning of the integrated sugar production systems. The companies managing the Malang mills were

semi-public corporations with ties to the Ministries of Finance and Agriculture. They had relatively efficient internal organizational structures and representatives at all administrative levels. The companies organized the exchange of information efficiently, keeping the vertical lines short, and operated pro-active towards trends and new developments in the systems. In this they contrasted with the administration which was less responsive to pressures from below because of its internal hierarchical structure and the actors' vested financial interests.

Here the picture that New Order Government officials have of agrarian communities also plays a part. The officials still think of rural communities in terms of outdated ideal models of corporate societies based on moral solidarity which depend for the economic development on paternal directives from higher authorities. Consequently actors in the political administrative apparatus acted re-actively to new developments, exploited their authority over marketing policies for financial spoils, and tried to solved problems of coordination authoritatively. However, the rice intensification programme had taught the administration that it needed the support of the village and sub-district elites for the implementation of agricultural intensification programmes.

The cane growers and cane workers were the weakest party in the integrated sugar production systems. The New Order administration paternalized the formal farmers' and labourers' organizations, and banned independent associations. It introduced rural institutions at the village and the sub-district levels through which outgrowers had to organize. The analysis of the social network of relations in Malang's sugar industry showed that the organization of cane production and the agro-industrial linkages varied widely. The conjunction of economic interests differed for sub-categories of cane producers, who had similar management strategies for the resources. All cane producers had a conjunction of economic interests in their marketing relations with the mills, but for credit, labour and land tenure relations, the interests of sub-categories of cane producers did not conjoin or were even in conflict.

The cane entrepreneurs were accustomed to organize themselves informally around their conjunction of their economic interest, in contrast to the smallholders. Based on their awareness of the connection of economic and political processes, the commercial entrepreneurs coordinated economic and political actions around common interests and subjective experiences. They did this through their connections to the actors in the formal institutions, and to the informal cane traders. For formal institutions the entrepreneurs formed ad hoc coalitions and lobbied for their economic interests.

The smallholders' networks were mainly limited to the village level. They discussed their subjective experiences in the socioeconomic relations in their kinship, neighbourhood and cane cutters networks. But like the cane workers, they did not coordinate their economic or political actions without the backing of a patron or of a strong market position. Smallholders and cane workers in the more remote areas tried to protect their interest through vertically-oriented patron-client networks. They bargained for special favours from their patrons and when they failed, used the ordinary weapons of relatively powerless groups (Scott 1985:xvi).

When the formal TRI institutions did not respond to pressures from below, the commercial cane growers withdrew from the official TRI credit programme and the market regulations. The formal outgrowers' organizations wanted to maintain their control over the cane market through law and order measures, but the administration and the mills realized that less confrontational measures were needed to react to the economic behaviour of the entrepreneurs. They tried to prevent encounters in the sector's institutional structure and to gain the village elites' support through an alliance. They agreed to make exclusive concessions to the village elites and entrepreneurs for their major grievances against the TRI

programme in exchange for local support of their policies towards all other cane growers.

However, the alliance did not hold in the central sugarcane belt when the formal outgrowers leaders were discredited due to manipulations and mismanagement of public funds. Here distinctive local and sub-district social structures resulted in peculiar political processes in the rural institutions. Islamic leaders and entrepreneurs in the sugarcane belt formed horizontally-oriented contract groups with smallholders in rural institutions to protect the cane growers against what they saw as social-political predators. The entrepreneurs in the sugarcane belt have had a long history of struggle with the mills and the administration. They were well-aware of their economic interests and were well-informed about the functioning of the production systems and of structural changes occurring in them. With their conceptual skills they could articulate the outgrowers' subjective experiences at the interfaces of the systems and criticize official policies on moral grounds as Islamic leaders, or on legal grounds as political leaders. As economic and religious leaders they could easily mobilize local support and create political pressure using the socioeconomic networks of their cane enterprises and the local Islamic networks.

Thus, the core-satellite relations in the integrated sugar production systems were formed by the TRI institutional structure. The hierarchically organized administration and the sugar companies dominate the TRI institutions on all administrative levels. The central political administrative apparatus decided about market and tax policies, which affected the producers and retail price of sugar and the division of the added value between the retail branch, the mills, the outgrowers, and the state. The TRI institutional structure and state patronage over the formal outgrowers organizations caused encounters to take place between the cane producers and the mills in the organizational structure of the regionalized production systems, where actors of the vertically oriented institutions interacted with the outgrowers and their horizontally oriented networks.

The outgrowers' networks reached up to the district level and the implementation policies required extensive negotiations between the different interest groups in the formal institutions and the informal networks of the regionalized production system. These negotiations had consequences for the distribution of the added value in the forward linkages, between the mills, the formal outgrowers and the government agencies, the cane traders, and the cane growers or sub-categories of them. The entrepreneurs organized themselves to defend their interest at the agro-industrial linkage. In the backward linkages the cane producers, landowners, labourers and money lenders bargained at the level of the operational units about prices and tariffs, which influenced the division of the added value.

Negotiations take a central place in shaping the social network of relationships in Malang's sugar production systems. The commoditization of the rural economy and the expansion of market relations has led to an erosion of the peasant subsistence farms and of traditional patron-client relations. These changes have created confusion and distrust and consequently the actors have had to develop new strategies and to negotiate new rights and obligations in the social relations of cane production. They replaced the standard models for socioeconomic transactions by more specific contracts for land tenure, labour, credit and cane sales transactions. In these contracts they specify each others' rights and obligations in an attempt to prevent conflicts from occurring during their implementation. At the village level the actors increasingly have to rely on unspecialized social networks, like kinship and neighbourhood for social security arrangements, while what Bailey (1969) calls 'specialized contract groups' are only formed for political purposes in the formal rural institutions and on an ad hoc basis for action settings.

The study showed that a lot of cheating takes place in the socioeconomic relations of the

integrated sugar production systems. In the theoretical work on contract farming little attention is paid to this phenomenon. Well-informed cane entrepreneurs accused the mills of cheating the cane growers with the sugar content and in weighing the cane. Further they accused actors controlling the TRI institutions of cheating the cane producers by collecting levies they were not legally entitled to charge. On the other hand poor and powerless smallholders cheated lessors by renting their cane plot to two lessors or selling their cane twice. The cane workers thought that the patrons cheated them by not giving presents at the close of the crushing season. In turn the employers suspected the cane workers of cheating them with the quality of their labour and by stealing fertilizers and even cane from them.

Actors at different levels in the integrated production system used different normative and legal systems to prevent this cheating. The study confirmed discussions among the actors at village and sub-district levels about alternative normative systems as models for economic and political behaviour. In these discussions the sub-categories of actors took positions strongly related to their control over the means of production or market resources. The officials referred to the national legal system, which was less effective in influencing socioeconomic behaviour at the village and sub-district levels. At those levels the elites used the less formalized cultural and increasingly Islamic normative systems to influence the socioeconomic behaviour of local actors. The mills and the administration used the formal legal system as terms of reference for their economic and political decisions and activities.

For transactions at the village level the mills and also the regional cane traders relied on the village elites' capacity to influence the behaviour of cane producers, cane workers and landowners through local normative systems. These actors lacked knowledge about the local network of socioeconomic relations which was important to prevent conflicts or being cheated in cane production or the cane trade. Therefore the actors in the TRI institutions and the entrepreneurs tried to establish ties with influential local actors who acted as their partners or agents. By establishing relatively flat networks of local agents who shared in the added value the TRI institutions and the regional entrepreneurs shared in the local economic opportunities in cane production, money lending and cane trade, and protected themselves against the involved political and economic risks.

The study also showed that the successful entrepreneurs moved from the villages to the sub-district centre, and in the sugarcane belt to the city of Malang. Through these moves the entrepreneurs distanced themselves from village social norms and obligations for the wealthy, and at the same time they intensified their connections with district political and economic leaders. Further, many of the cane entrepreneurs were hajji. This resulted in religious status that was a basis for claiming authority in moral affairs related to socioeconomic transactions in cane production or trade. In this respect the study confirms the strategies which Evers and Schroder (1994) observed for entrepreneurs, solving the traders' dilemma. Of special interest in this context was the position of Chinese cane contractors (*cukongs*), who had established leading positions in the trade and production of TRB cane. They were successful in establishing informal connections with the mill managers and the political leadership at the district and provincial level. These were very instrumental in negotiating deals for their inter-district cane trading activities, but the Chinese contractors refrained from any political activities.

The political struggle in KUD Gondanglegi confirmed Von Benda-Beckmann's (1994) argument that the neutrality of law is an ideal and that those closest to political power tend to have their norms or laws applied. The political leadership of the district decided that central regulations about indebted cooperatives were of a higher order than the cooperative's internal rules about membership and leadership. The public prosecutor solved the fraud case

in line with directives of the regional political leadership and not the national anti-corruption laws, as was requested by the informal leaders. The struggle also showed that White's (1992) argument about a more equitable distribution due to the cooperative's special institutional arrangements does not hold. In practice well-informed and well-connected cooperative leaders had room to manoeuvre between pressures coming from the administration and those coming from the general members meeting. Knowledgeable informal leaders played a central role in the latter, but when their coalition endangered the interests of those in the vertically oriented institutions, those close to political power dictated the policies and side-stepped the general members' meeting. Neither the institutional form nor competing factions of knowledgeable actors can oppose the supra-local political forces.

Thus, the economic and political actors did not only coordinate their activities in the regionalized sugar production system. In a quickly changing rural economy they simultaneously reshaped the system's network of socioeconomic relations. The negotiations are on the one hand about the division of the added-value in the relationship, and on the other about roles and norms for socioeconomic behaviour. The study showed that the negotiations about prices and tariffs were annually recurring events, but that negotiations about the roles and norms for socioeconomic relations were taking place continuously. However, negotiations about roles and norms in associations, particularly those paternalized by government agencies, were more discontinuous with peaks during the elections of new leaders. These negotiations have to be analyzed within the historical and sociopolitical context of the region. The actors in Malang's sugar production systems have a long history of conflicts and alliances, as different groups try to enhance their material and political interests in the face of the existing distribution of resource or added-value.

The study showed the importance of cognitive and communicative skills at the interfaces of the integrated production systems. Control over productive resources gave a strong negotiating position in land, labour and credit relations. However, knowledge about the functioning of integrated production systems and communicative skills were crucial for influencing the negotiations in the organizational structure. Where social-political bargaining strength plays an important role in the formal institutions at the national, provincial and district levels, the study showed that the knowledge was essential for negotiating informal deals with the mills, the local government, or the cooperative. If they failed to make these deals, the knowledge was needed for finding loopholes in the formal regulations or for raising cain in the system, to change its functioning to one's advantage. The study showed that informal leaders with the requisite cognitive, normative and communicative skills were central in organizing protest actions at decisive moments of change in the production systems.

At the regional level, Islamic scholars and entrepreneurs are better informed about their political and legal rights than the smallholders are and increasingly criticized the venality and corruption of the social and political predators. The political leaders and *ulamas* at the sub-district level are becoming increasingly worried about and critical of the gap in wealth between the local and sub-district elites and their cane workers. Erosion of social security and wealth redistribution mechanisms, in combination with a better educated village youth, have led to a better educated generation of leaders and entrepreneurs in two of the three research locations. They expect a justification of centrally imposed regulations rather than instructions to support their local implementation.

The study showed how the various domains of social life, the economic, religious and political, are interconnected. The village elites participated in extensive social, economic, political, and religious networks, which extended up to the district level and used their connections in these networks for various purposes. For example, the *ulamas* applied their

knowledge about changes in economic behaviour and normative structures, which they gained through participation in the NU organization, to discussions about moral standards for labour or money lending arrangements in Malang's sugar production systems. Some hajji entrepreneurs used the religious networks for trading activities and to obtain scarce public goods or services. Thus, the interconnectedness of the different domains is established by individuals who participate in the networks of different domains, and apply discourses in the religious and political domains to economic behaviour.

The study further showed the interconnectedness of political and economic processes at the different levels of the integrated sugar production system. The political administrative apparatus did not respond adequately to pressures from outgrowers because of its hierarchical structure and its outdated ideal models of rural communities. Also, the state patronage over the formal farmers' organization and the rural institutions prevented messages from the outgrowers from reaching the higher levels. The interest groups in Malang's sugar production systems have a long history of forming coalitions and alliances to enhance their material and political interests. They did this through both the formal and particularly the informal networks. When the district political leadership or the mills remained unresponsive to the cane growers' grievances, alliances of social actors purposefully raised cain in the system, leading to a controlled disruption of the established order, a discontinuity in the regional sugar production system, which in the process of its restructuring gave social actors the opportunity to promote their interests.

The region, which is the district in the Indonesian setting, is the 'middle' level, or the linkage between the village and the national level. The actors in the social network of the sugar production system try to form coalitions and alliances by negotiating contracts in which economic and political interests are conjuncted. The structure of the middle-level linkage changes continuously as the result of new directives from national level, changing combinations of personnel, and new coalitions or alliances which inevitably are of a somewhat ad-hoc nature. The 'structure' exists for as long as the social actors are satisfied with the way it functions and with the division of the added value in the regionalized sugar production system. It changes when new coalitions emerge because actors see better alternatives with which to serve their interest or if new developments have changed the interests of fractions in existing coalitions and alliances.

APPENDIX 1

Research Methodological Issues and Experiences

The research was implemented in four phases, namely an explorative survey, a census, diagnostic case studies, and a network analysis of the intermediate forms of organization beyond the operational production units that made up the regional sugar production systems.

The explorative phase was started in 1989, when I moved to Malang and observed the degree to which Malang's agriculture was dominated by sugarcane. I continued to explore the interactions between actors in Malang's sugar production system until 1994, when I had a final opportunity to discuss and cross check with key informants the interpretations which I developed while writing this thesis. The first phase of the explorative survey resulted in the drafting of a census of cane producers, which I used to investigate the main characteristics of the operational units of cane production in all three research locations.

These operational units are the relatively independent management units in which decisions concerning the technology and the organization of the labour process are made. The sugarcane farms differed considerably in size, the larger ones consisting of more than one labour unit, and therefore the above criteria had to be used for demarcation. For the census I focused on both quantitative and qualitative information about backward and forward linkages and on the management strategies. This information was analyzed with the Principle components analysis (Princals). With Princals I analyzed the correlations between nominal and ordinal variables. Princals presents these correlations as vectors in a two-dimensional matrix. Both the length of the vector and the degree of angle with other vectors represent the correlations. Vectors of variables that are long and located close to each other or that are continuations of each other, are respectively positively and negatively closely related to each other. Variables whose vectors stand perpendicular to each other lack any correlation.¹

Princals formed clusters of operational units for which farm-size, land lease, management structure, labour recruitment, and credit and marketing relations were the central dimensions. On the basis of these clusters the researcher distinguished different types of production units, such as smallholder family farm, smallholder farm, entrepreneur farm, overseer production unit, and mill production unit. In each research location I selected a number of production units from each of the sub-categories, to be used for the diagnostic case studies.

The census further resulted in quantitative data about central characteristics of the production units in the three villages. This quantitative information was processed with descriptive statistics and presented important correlations in the form of tables and figures, illustrating the arguments developed on their basis.

For the diagnostic case study I studied the relations between the actors in the operational unit, i.e. between the manager and household members, landowners, hired labourers and care takers.

¹ Princals (principal components analysis by means of alternating least Squares) is a statistical programme available in the SPSS package. The programme is especially suitable for exploring the internal relations within a set of variables not all of which are measured on an interval or ratio level, but also for variables considered as nominals or ordinals. The programme analyzes the major dimensions of variations for the set of variables. Another option is data-reduction or dimension-reduction in which new variables are developed which replace relationships or dimensions of original variables. The programme is very useful for exploring various working hypothesis on a set of variables with mixed measurement levels.

The same was done for relations between the manager and actors beyond these production units, such as leaders of rural institutions and kinship, religious and neighbourhood organizations, money lenders, traders and mill officials. The selected production units were regularly visited during the cultivation and harvesting season. This gave a picture of the seasonal impact on field operations and the pattern of interactions between the actors in the social relations of cane production. It also led to a closer acquaintance and trust in the relationship between the researched and the researcher. Initially the conversations focused on technical and economic matters, but once a rapport had been established, the dialogues focused more on perceptions, ideas, subjective experiences and strategies used in the production and marketing of sugarcane. These diagnostic case studies resulted in qualitative information about interactions in the relationships, rather than quantitative ones such as frequencies and commoditized and non-commoditized elements.

These diagnostic case studies were the starting point for the network analysis of the organizational structure of the regionalized sugar product-line. Beside the actors in the selected production units, key informants and key actors in the intermediate organizing forms at the village level were interviewed as well. Through these interviews a local historical perspective of the sugarcane production organization was gained. Both political and economic forces played central roles in the introduction of sugarcane production, but also in the struggle for control over the farmers' groups, which distributed the funds for the government's agricultural intensification programmes.

The researcher's multiple identities facilitated the establishing of rapport and mutual confidence in the relations with actors in the sugarcane production units and with the intermediate organizations beyond them. My background as a farmer son (*anak tani*) and agriculturalist (*ahli pertanian*) enabled me to develop rapport by discussing technical matters. We then made comparisons between the organization of farming and sugar production in the Netherlands and in the village. Once a relationship had been established, social and economic aspects of cane production could also be discussed.

Being a foreigner as researcher had both advantages and disadvantages. The advantages were that the local actors saw me as independent, without economic or political interests in the sugar sector, and without relations to influential actors in the regional economic and political systems. Weak economic actors requested anonymity to prevent sanctions from power holders.² In this study I used pseudonyms for all names of villages, hamlets and actors.

Another advantage was that all officials of government agencies and the sugar companies were very cooperative. As an 'innocent' outsider I could communicate my perceptions of their situations and the dilemma's they faced while making management decisions. As an outsider I could ask questions that local researchers could not ask, and surprisingly I more than once received quite strait forward answers to these. However, there were also situations in which officials of one department refused to answer a question because insiders of other departments could identify them later as the source of the information. Some key actors asked me for the

² Any hints towards corruptive practices by officials would cause these to immediately ask for documents on which the statement was based. The officials of the local government and TRI institutions systematically prevented the circulation of such documents, and confronted a subjective experience with statements of official policies. Opponents were later often punished for their disloyal behaviour, of which especially the poor were afraid.

interest of the production system to judge carefully which information could and could not be presented in my report.

The disadvantages of being a foreign researcher, lay in having to carefully triangulate the information obtained because respondents often wished to impress the foreigner. For example smallholders overstated the land and labour resources they managed, and patrons understated their land resources and overstated the wages they paid their labourers. Information about land resources tended to be inaccurate to hide wealth differences, while the low figures for wages created the image of avaricious patrons. These biases had to be eliminated through triangulation with other economic actors, using various research tools.

The rich patrons saw me as an actor in the sugar industry and had strategic considerations in the answers they gave to my questions. For example leaving the house of a Pakisaji patron, he reminded me of his two major grievances against the sugar mill's policies that I was to write in my research report. He also recommended that I send a copy of my report to the national research station for the sugar industry (P3GI) in Pasuruan.

Another disadvantage of being a foreigner was that actors in the sugar sector saw themselves as 'ambassadors' in their relations with a Dutch researcher. Key informants and key actors at the village level told me honestly that they did not want to hang out the dirty laundry to a foreigner.

Still another disadvantage were the difficulties which I experienced in establishing rapport with the cane workers. Illiterates cane workers were used to communicate in Javanese or Madurese, and not in Indonesian, which I spoke. Further, they disliked to communicate about their relations with cane entrepreneurs because of their loyalty to their patrons. It was much easier to discuss issues with cane cutters under seasonal contract.

I had particularly pleasant dialogues with one or two key informants in each village. These were able to observe and to give a meaning to the processes of change in their village communities. I had long talks with these village 'intellectuals', often under four eyes seated in the shade of a tree in their fields. They provided me with historical insights which clarified the present land distribution and the local struggles in the intermediate forms of organization. I owe much to these key informants, in whom I noticed a concern for the welfare of the poorer households. They had been or still were involved in the struggles in the intermediate form of organization where decisions were taken that affected the distribution of public resources and benefits in the sugar sector.

To summarize my experience in analyzing the actors' perceptions and strategies, as a researcher I had to establish relationships with the respondents. This was more easily done with the upper than the lower strata in the village. In these dialogues I had to pay attention to the cultural context of interaction, and to the impact of the local context on the way the respondents' presented their strategies and dilemma's in the network of social relations, but also to a foreign researcher. For the interpretation of their contributions to the conversations I had to consider the cultural context of their interactions and the intercultural context of the conversation. The poorer actors were modest and did not speak critically about their patrons to outsiders. The wealthier ones were much quicker in giving judgements of sub-ordinates than they were of officials. They clearly showed the impact of a hierarchical social structure on the patterns of communication in the village communities.

APPENDIX 2

Sugarcane Production and Processing Techniques

In this appendix I will give an overview of the different sugarcane production techniques used by cane growers in the Malang district. These techniques are related to specific agro-ecological conditions and developed in specific sociopolitical environments. The field operations, from planting and ratooning to harvesting will also be described for the different technical production systems.

Ecological conditions affecting sugarcane production

Sugarcane can be grown in the tropics and sub-tropics at attitudes up to 1,200 m. The growth period is determined by the prevailing climate: the higher the temperature the shorter the growth period. The optimal daily temperature is about 28 °C; cool nights and sunny days promote the sucrose production. Vegetative growth and sucrose production are impeded by temperatures below 15 °C and the crop may even be damaged by light frost. For proper growth and ripening the crop needs an annual rainfall of minimally 1600 mm and a distinct dry period of four to five months. Wind during ripening can cause damage the crop by lodging, which may result in the development of new shoots and a reduction of the sucrose. Cultivation at higher altitudes is better because both the vegetative and generative growth are more balanced, which positively affects the resilience of the crop against pests and diseases.

Sugarcane can be grown on a wide variety of soils, ranging from sandy to clayey. Productivity levels are positively affected by soils with a good internal drainage, a good structure and water supply. 'But each soil type needs its own particular treatment in order to produce profitably under the prevailing climatical conditions. On heavy soils sugarcane responds well to deep-ripping.... Light sandy soils usually need a liberal fertilizer application and irrigation to achieve a good crop' (Ilico 1981:490).

Sugarcane production systems

Sugarcane can be propagated yearly from plant-cane (*ungaran*) for which cuttings³ or *bibit* is used. These cuttings are obtained from seed cane, 6-8 months old healthy cane, or the tops of harvested cane. Sugarcane can also be grown from the rootstocks of harvested cane (*keprasan*). Plant-cane needs a longer growth period than a ratoon crop does. In the prevailing ecological conditions of the Malang district, plant-cane matures in 14 to 16 months and ratoon cane in 11 to 13 months.

During the late nineteenth century, the Dutch sugar mills developed a new production system for *sawah* land, which became known as the Reynoso production system. This system is highly productive on the clayey soils in the alluvial river basins, the areas where the majority of the mills in Java had their concessions.

³ The cuttings are cut from the cane tops and each contains two or three buds. For one hectare plant cane about 36,000 cuttings are needed, or six to eight tons of seeds.

For their sugarcane production the mills relied largely on land which they rented land for indigenous communities. The mills wanted to maximize the sugar production per hectare and for that purpose designed a four year crop rotation system, which the later reduced to a three and finally even a two-years, in which a mill managed plant-cane crop was integrated into several community managed wet-paddy crops. The mills, with the assistance of the colonial government, forced the local communities to lease their land to the mill for a period of 14 until 16 months. The mills paid a rent to the landowner, from which the village heads first deducted the land tax. This integrated crop rotation, land tenure and tax system was known as the *glebakan* system. The mills and local government divided the irrigated areas or the irrigation command areas into four to two areas of almost equal size which were called *glebaks*.

For the Reynoso production system elaborated water management systems had to be constructed. First a primary drainage and irrigation system had to be dug for the whole *glebak*. Then ditches were dug at intervals of 10 meter along the main channels. Gutters leading into the ditches were dug every 1.10 m.¹ At the higher side of the gutters the cane cuttings were planted at a depth of about five cm. Since the young shoots were relative weak they were intensively cared for by the female cane workers, who irrigated, weeded, fertilized and ridged the plants at the optimal time.

Yearly one fourth, one third or half of the communally owned irrigated land, also known as a *glebak*, was rented for a period of 14 months to cultivate one plant-cane crop. The mills generally planted the crop at the end of the rain season (April- May) and harvested it a year later during the dry season (July-November). After the sugarcane harvest, the mill handed the plots back to the farmers who cultivated several rice crops after repairing the channels and terraces. In case of a *glebak-3* system the mill rented the same *glebak* again after 20 months, at the start of the dry season.

Field operations for plant- and ratoon cane

Outgrowers in the Malang district prefer the ratoon production system because it saves investments, since it is labour extensive compared to plant-cane. After the cane is harvested the old ridges are removed and the stalk ends are cut back up to the rootstocks (*keprasan*). This stimulates the development of new shoots. Where available the outgrowers use irrigation facilities and high amounts of nitrogen fertilizer to stimulate regrowth. They also cut the old roots of the ratoon cane in the gutter (*pedhot oyot*) either by hoe or by plough.

The first ridging and weeding operations are combined with transplanting young shoots (*sulam*), in order to get an uniform number of stalks per meter of ridge. The outgrowers usually apply fertilizer after the first weeding, and give a second application when the cane canopy closes. They plant the cane in rows 1 to 1.20 m apart and gradually ridge the rows. The last ridging (*tutup gulud*) is done in anticipation of heavy winds during the dry season. Then they

¹ The mill's preoccupation with efficiency and economics of scale caused the boundaries of the individual holdings to be ignored in the construction of the particular water management system for sugarcane. Thereby the mill destroyed the specific water management system constructed by the local communities for their paddy plots. The extra labour burden to repair the channels and level the terraces again was a major reason why the communities very much disliked the Reynoso system.

also irrigate the cane (*leb*) when irrigation facilities are available. During the dry season when the cane matures, some outgrowers also strip the dry leaves from the cane (*roges*).

The differences between the field operations for Reynoso and ratoon cane makes the former a production system that is relative capital intensive and the latter a capital extensive one. In appendix 4 an overview of the production expenses and returns of different production systems can be found. For Reynoso cane the production expenses are twice as high as those for ratoon cane on dry-land.

The cane is ideally harvested when mature and the sugar content has reached its maximum. To determine this the mill officials use the Brix metering or pol-analyses in the field. At the laboratory the mills measure the sugar content more precisely using electronic equipment.

For proper harvesting the cane has to be cut when the soils are still moist, because the lowest part of the stalks, which has the highest sugar content, can also be harvested then. On sandy soils some cane producers irrigate their cane shortly before the harvest and partly remove the ridges, so that the stalks can be pulled, rather than stab with a knife in the soil. In the areas with irrigated clay and dry-land loam soils the cane cutters commonly cut the stalks just at the surface, causing serious losses for the outgrowers and mills. The cane cutters remove the tops and the leaves from the cane stalks and bind the stalks into bundles of 50 to 70 kg. In the clayey and hilly areas the soils have to be dry, otherwise the trucks can not enter the plots to be loaded with cane and the cane cutters have to carry the harvest to nearest place the trucks can reach. If the cane is transported by locomotive, the mill's staff construct temporary rails leading from the permanent railway into the harvested holdings. Oxen are used to pull the lorries to and fro the permanent railway. The cutting expenses are considerably lower when the lorries or trucks can enter the holdings. Harvested and burnt cane has to be crushed within 24 hours, because the sucrose content quickly declines after cutting or fire.

The owners of cattle and poor households collect the green leaves and the cane tops for cattle fodder or sell them to the drying-houses in the region. These drying-houses dry the leaves and export them to Japan as beef cattle fodder.

Cane processing and sugar production

The stripped cane is weighed after entering the mills' gates. These gates are of a maximal height, preventing the truck operators to overload their trucks, which causes extra damage to roads and bridges in the district. At the weighing scales the cane is graded for quality bonuses. The mills have also scales for lorries and trucks that have been unloaded.

The mills have different unloading installations. For example, both mills have hoists which lift the cane from lorries and trucks using steel tackle ropes. At PG Kribet Baru all cane has to be supplied to the crushers on lorries, and thus the cane has to be reloaded on lorries at the railway yard within the mill's compound. PG Kebon Agung has a similar installation for the supply of cane at nights. The mill also has an installation to unload cane by lifting the front wheels of the trucks.

The cane is crushed and then passes through two presses. The fibre is washed with water and pressed several times in order to extract the remaining juice from the cane. The fibre (*ampas*) is either used as fuel for the boilers or sold to paper mills in the province.

The juice is heated to 70 ° C and successively $\text{Ca}(\text{OH})_2$ and SO_2 are added. The juice is then heated to 105 ° C and passes through a clarifier to precipitate the mud (*blontong*) fixed by carbohydrate and sulphur dioxide from the juice. This mud juice is cleaned by a vacuum filter, and is used as a fertilizer by the farmers.

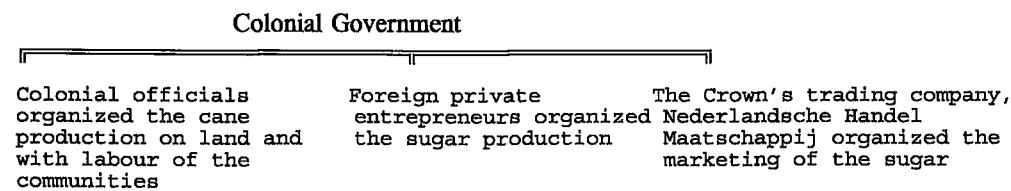
The juice passes through a cooker and steam boiler which dehydrates it and transforms it into syrup. To the syrup sulphur dioxide is again added to bleach the crystal syrup which is produced in the boiler house. The portion of the syrup which granulates becomes crystal sugar and the remainder molasses, a raw material used for the manufacture soft drinks and soy sauce in Indonesia or exported.

Only about 80% of the sugar in cut cane can be extracted, and this varies with each mill's crushing and pressing equipment. The composition of cane is about 15% fibre, 68% water, 14.5% saccharose and 2.5% non-saccharose. Thus with the present technology, about 20% of the sugar in the cane can not be extracted (Ilaco 1981:490)

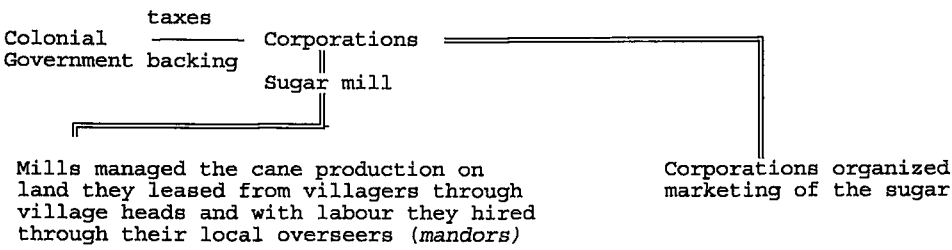
APPENDIX 3

Organizational structures of Java’s sugar industry during the various political periods

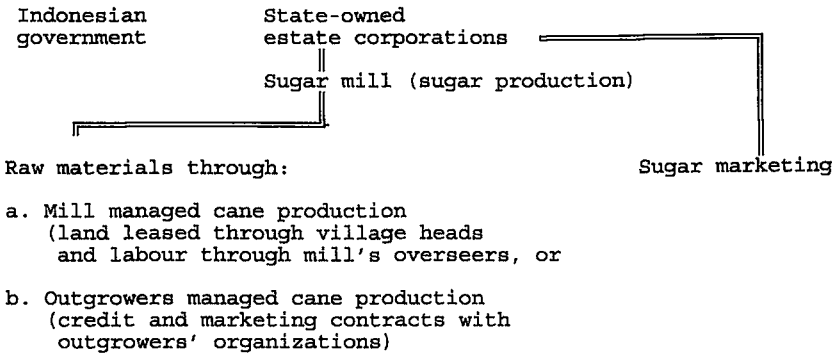
A. Cultivation System Period (1830-1880)



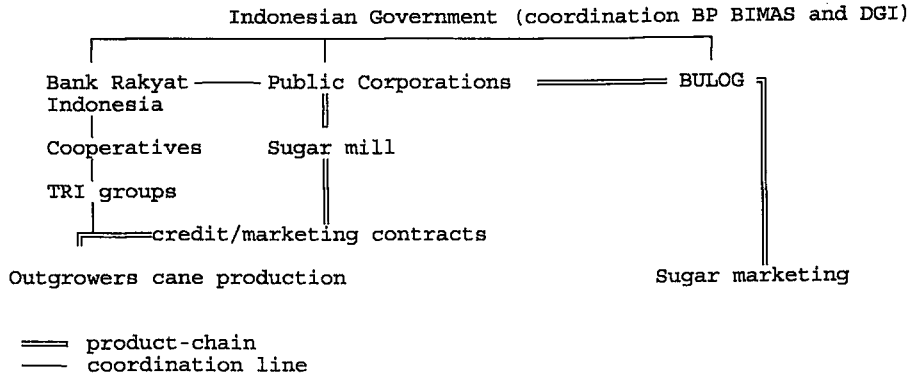
B. Liberal Colonial Period (1880-1940)



C. Guided Economy Old Order Regime (1958-1975)



D. TRI Outgrowers structure (1976-present)



APPENDIX 4

The Milling Festivals at the Malang Mills in May 1991

Since colonial times the mills have annually organized *pesta giling* or milling feasts to mark the start of the new crushing season. Initially the feasts were internally-oriented celebrations to strengthen relations between the mill and its permanent and seasonal labourers. Central to the feast was the religious thanksgiving meal or *selamatan*, a ritual that symbolized the commitment of the mill and its staff to realize the production targets for the new crushing season without casualties. The *selamatan* also invokes the aid of the spirits and the ancestors and involves them in the whole milling operation. Nowadays the ceremony has a more public relations function, marking the start of the new crushing season to which the mill's external relations are invited. The *pesta giling* gathering is the central activity, which is attended by the *bupati*, as head of the district Bimas Executive Board, and by national and provincial managers of the owners and management companies. The following paragraphs report their presentations during the opening ceremonies for the 1991 crushing season.

The official part of PG Kebon Agung's milling feast

At PG Kebon Agung the site manager opened the ceremony, explaining that the objective was to ask a supernatural blessing (*restu*) for the forthcoming crushing season. He thanked the mill's technical staff for their efforts in renovating the mill and bringing it in a proper state for the work. He next presented the mill's targets for the 1991 crushing season, which were to crush 7,294 ha TRIK and 3,019 ha TRIN cane. The target sugar production was 380 tons per day and 64,000 tons for a crushing season of minimally 168 days. For this purpose the mill needed about 4000 tons of cane daily. The manager illustrated the mill's economic importance for the national and particularly the regional development by mentioning the direct employment opportunities it created for 894 employees and 776 seasonal labourers, and the resulting indirect employment in the backward- and forward-linked industries. For the 1990 crushing season PG Kebon Agung had paid direct taxes to the government to the amount of 4.25 billion rupiahs.¹

Next the branch chairman of the official workers union, SPSP, praised the tri-partite industrial labour relations in the TRI programme, in accordance with the Pancasila ideology. He emphasized the workers' responsibility in contributing to a clean, organized, and healthy working environment, free of pollution and waste of raw materials. Just before the milling feast the union and the mill leaders had reached an social agreement about the labour conditions for 1991 and 1992. The negotiations went smoothly and resulted in a total wage increase of 17.8%. The minimal daily wages were fixed at Rp. 1490 for labour in the cane fields and Rp. 2360 for work in the mill. Pensions were a hot issue, because the union requested an inflation free pension. The parties had compromised on a payment of 60% of the final earned salary and a minimal pension of Rp. 30,000 per month. The union effort prevented the labourers from being treated like cane: '*habis manis sampah dibuang*' or 'when the sweetness has been extracted, the waste is thrown away'.

¹ Rp. 2,920,000 sugar tax (*pajak gula*); Rp. 1,163,000 excise tax (*cukai gula*); Rp. 69,000,000 for PPN and Rp. 12,000,000 in real estate and property tax (*Pajak Bumi dan Bangunan*).

The manager of PT Triguna Bina in Surabaya, who beside PG Kebon Agung was also responsible for the PG Tranggil mill in the Pati district in Central Java, stressed the importance of proper cutting, processing, and the sharing of the returns. The outgrowers and the mill officials should ensure that the cane was cut at the proper time and in such a way that the lowest sections of the stalks, which have the highest sugar content, are also harvested. The mill operators should concentrate on the efficient production of cane and by-products, and prevent the waste of raw materials and other inputs. Finally the economic actors involved, the outgrowers, the labourers and the mill, should each receive their proper share of the returns.

The *bupati* emphasized the importance of the TRI institutions for the coordination of the actors' activities and for solving problems of coordination or conflicts of interest. He further stressed that all TRI credit had to be repaid, emphasizing the importance of a proper monitoring by the mill, the cooperatives, the TRI groups and local government officials. For the 1990 crushing season the Bimas Executive Board had restricted the inter-district cane trade to cane that had neither received TRI credit nor was registered for crushing at the Malang mills. Further, the *bupati* requested that the *camats* and the Muspika's actively contributed to the mill's objective.

The official addresses at PG Kreet Baru's harvest feast

PG Kreet Baru's site manager also opened the meeting with a report on the mill's production results during the 1990 season. The refinery had not reached its targets because it had operated for only 153 days and crushed 973,851 tons of cane. Its two mills at the Kreet complex had produced 71,735 tons of sugar. These results were 8% below the target the mill had set for the milling season.

The managing director of PT Rajawali Nusantara paid special attention to the interdependence between the regional economy and the operation of the mill. PG Kreet Baru had pioneered outgrowers forms of cane production for Java's sugar industry. Thousands of farmers in South Malang depended on the mill for the processing of their cane and for their incomes. The mill in turn depended for its efficiency on the supply of raw material by the outgrowers in its procurement area. The highest authority in PT Rajawali Nusantara presented an image of PG Kreet Baru as 'the milling worker' (*buruh giling*) of the outgrowers, who receives 30 to 38% of the outgrower's sugar for its services. Because of this mutual dependency, both partners must seek to create win-win situations, rather than pushing zero-sum policies that harmed either the cane growers or the mill. For this purpose TRI institutions have been created within which representatives of the cane growers and the mills negotiate mutually beneficial solutions. In this context the cooperatives are responsible for preventing competition among themselves and to uniformly implement the marketing policies in the mill's hinterland.

The *bupati* made a speech similar to the one he had made ten days earlier at PG Kebon Agung. He stressed his policy to limit any cane export as long as the 'cocks' (mills) in the district were still 'hungry' (needed cane).

Cultural performances at the feasts

The speeches at the two milling feast were made amid cultural performances. The shows at PG Kebon Agung were mainly Javanese forms of theatre, such as dances (*tarian gandrung* and *tarian gondrong* from Banyuwangi and Ponorogo), theatre (*wayang orang*) and local artists singing popular songs. This contrasted with PG Kreet Baru where a nationally known female singer of modern popular Islamic songs performed. At PG Kebon Agung an *ulama* officially opened the milling season, in contrast to PG Kreet Baru where the *ulama* opened the thanksgiving meal. Both mills invited their official guests for the lunch while their mills' staff received lunch packets, which they could carry home. Insiders estimated the expense of these festival between 50 and 80 million rupiahs.

APPENDIX 5

Comparison of estimated labour and production expenses and gross returns

Ratoon cane	Ratio		*2	
	1958	*1	1958	1991
Field clearance	50	5000	5000	3000
Pruning	495	45000	45000	30000
Cutting roots		50000		4000
Replanting/weeding		25000	20000	20000
Apply fertilizer	72	20000	15000	10000
Ridging	563	100000	90000	50000
Remove dry leaves	60	36500	22500	15000
Irrigation		25000	25000	
Security	250	25000	25000	20000
Total labour costs	1490	331500	247500	152000
Fertilizer	2800	408500	258000	215000
Estimated cane value	8365	4200000	1750000	1500000

Reynoso cane	Ratio of cane value		Ratio of cane value	
	1958	*1	1958	1991 (Dadapan)
Field clearance	70		0.5%	0.0%
Drainage/irrigation	935	170000	7.0%	6.1%
Seeds/planting	835	215000	6.2%	7.7%
Irrigation	252	30000	1.9%	1.1%
Weeding	180	30000	1.3%	1.1%
Fertilizer application	72	20000	0.5%	0.7%
Ridging	833	60000	6.2%	2.1%
Remove dry leaves	90	30000	0.7%	1.1%
Harvesting		250000	0.0%	8.9%
Security	250	25000	1.9%	0.9%
Total labour costs	5917	580000	44.2%	20.7%
Fertilizer	2400	309000	17.9%	11.0%
Estimated cane value	13384	2800000	100.0%	100.0%

Comparison production expenses and returns

	Dadapan*3	Dadapan	Sidodadi	Sumbersari
Land rent	1200000	400000	2275000	200000
Labour expenses	580000	247500	331500	152000
Fertilizer	309000	258000	408500	215000
Cane cutting	282000	141000	305500	60000
Transport	318000	177600	324500	190000
Profit	911000	575900	555000	683000
Cane value	3600000	1800000	4200000	1500000

*1 Source Soendjojo 1959

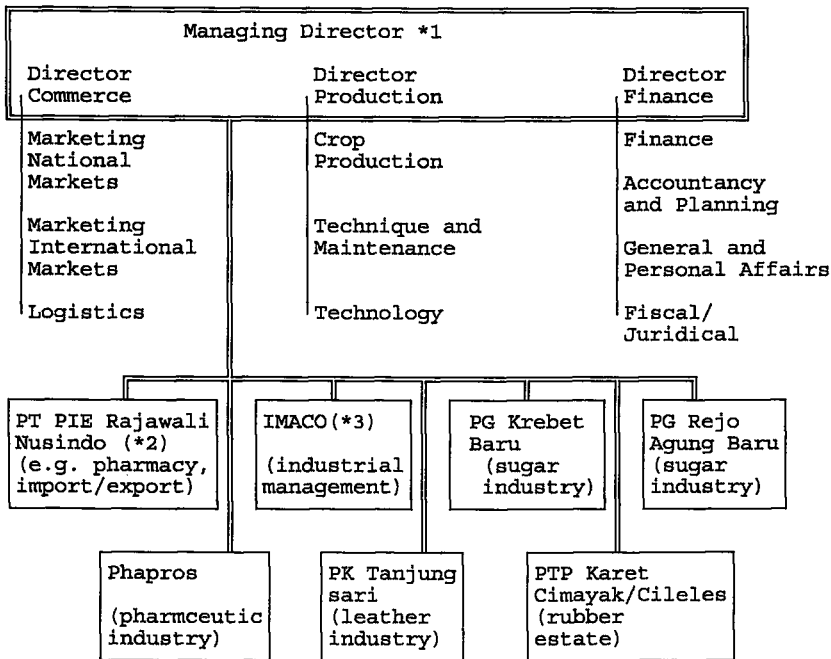
*2 Ratoon cane Dadapan 1991

*3 Reynoso cane, others ratoon cane

Source: Field data 1991

APPENDIX 6

Organizational Structure PT Rajawaji Nusantara Indonesia



*1 A Research and Development Unit and a Workers Chapter are placed directly under the Managing Director.

*2 PT PIE Rajawali Nusantara imports and distributes medicines, medical equipment and chemicals for foreign companies and PT Phapros, runs two pharmacies (Semarang), acts as insurance broker, manages stores at harbours, and imports and exports goods and equipment needed by PT Rajawali Nusantara Indonesia's subsidiaries.

*3 PT IMACO (Industrial Manangement Company) manages sugar mills, both mills owned by PT Rajawali Nusantara Indonesia, PG Madu Baru (Yogyakarta) and PTP XIV (Cirebon, West Java), leather industries (PK Tanjungsari and PK Carma Yasa), isolation stone mine (Pabrik Batu Tahan Api Loka) and Pharmaceutic industry (PT Phapros).

Source: RNI 1988

APPENDIX 7

Levies and incentives of sugarcane production in the Gondanglegi sub-district during the 1991 crushing season.¹

The district government received from cane production in Gondanglegi the following amounts:

* Coordination fees ²	3,231,323 a	Rp. 15 =	Rp. 48,469,845
* Levies TRB (traders)	640,545 a	Rp. 30 =	Rp. 19,216,363
* Incentive fertilizer 4061 ha a	Rp. 600/ton=		Rp. 2,923,920
	SUB TOTAL		Rp. 70,610,128

KUD Gondanglegi³ had the following incomes from cane production:

* Management fees (from Dolog)		Rp. 139.424.320
* Margin fertilizer 4061 a	Rp. 1000/ton	Rp. 4.873.200
* Incentive sugar factory (Krebet Baru)		Rp. 8.078.382
* Credit margins (TRIK cane farmers)		Rp. 20.722.941
* Commission cane harvest and transport		Rp. 15.787.094
	SUB TOTAL	Rp. 188.885.937

The TRI group leaders obtained the following incomes from sugarcane:

* Production services TRIK (Members)	Rp. 15	Rp. 30.473.550
* Production services TRIN (Members)	Rp. 2.5	Rp. 2.999.382
* Incentive KUD Gondanglegi		Rp. 7.965.000
* Incentive Krebet Baru		Rp. 8.078.382
	SUB TOTAL	Rp. 49.516.314

The leaders and organizations at village and sub-district level got the following incentives from cane production:

* Village funds (TRIK)	Rp. 25	Rp. 50.789.250
* Social foundations	Rp. 4.5	Rp. 9.142.065
* Incentive KUD Gondanglegi (for leaders)		Rp. 1.080.000
* Incentive PG Krebet Baru (for leaders)		Rp. 1.938.793
(Village development/security funds)		Rp. 4.523.852
(Incentive Muspika Gondanglegi)		Rp. 1.615.676
	SUB TOTAL	<u>Rp. 69.089.636</u>

TOTAL	Rp. 373.253.467
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¹ In 1991 KUD Gondanglegi supplied 3.231.323 quintal sugarcane to PG Krebet Baru of which 63% was TRIK and 37% TRIN cane. An official of the cooperative estimated the cane area in the Gondanglegi sub-district at 4061 ha of which 2258 ha was harvested as TRIK cane and 1132 ha as TRIN cane. The remaining 672 ha was TRB cane and sold outside the official marketing channel.

² The coordination fee and the levies for TRB cane were collected by the economic section at the Bupati's office. Of the Rp. 13.5, Rp. 2 was collected as road tax and Rp. 5 for the KKPPG, the working group that checked the mill on the outgrowers' behalf. The remaining Rp. 6.5 was for the Bimas Executive and Advisory Boards at the district and provincial levels. How these funds were used is less clear; the leader of KP KUD in Malang claimed that his centre got Rp. 1 of it and the cooperatives Rp. 1.5.

³ Other cooperatives claimed a production service of Rp. 10 per 100 kg cane from the outgrowers, yet they obtained their funds from the BRI bank, and for capital formation they got an interest margin of 4% over the TRI credit. The cooperatives also made an interest margin over the harvest expenses because they charged the outgrowers a monthly interest of 1.65%, but financed the harvest expenses only for one week.

GLOSSARY

<i>Abangan</i>	Ethnic Javanese who are nominally Muslim but adhere to a syncretism that includes Hindu, Buddhist and animist beliefs and practices in addition to Muslim ones (in contrast to <i>santri</i>).
<i>Adat</i>	Customs and customary law of a hamlet or larger communities.
ADM	Administrator or site manager of the sugar mill.
<i>Aliran</i>	"Stream" - the term applied to the main ideological streams like <i>santri</i> , <i>abangan</i> , and <i>priyayi</i> along which the cleavage of Muslim, Communist, and Nationalist socioeconomic organizations ran.
<i>Ampas</i>	Bagasse or cane residue after the juice has been removed by pressing. Bagasse is used as fuel in the sugar mill or as a raw material in the paper industry.
<i>Anak buah</i>	Client or supporter.
BANPRES	<i>Bantuan Presiden</i> , a decentralized development fund which enables the local government to allocate development funds at the village level without the bureaucratic procedures of the normal planning procedures.
<i>Bakul</i>	Local trader or middleman.
<i>Bau/bouw</i>	Local surface unit, 0.7096 hectare.
<i>Beli borongan</i>	Purchase contract for a plot with matured cane just before the harvest. The trader pays a lump-sum for the cane. The specific terms such as the date and the responsibility for cane cutting, and the security have to be specified but are usually the trader's responsibility.
<i>Beli kontrak</i>	Purchase contract for an amount of cane in exchange for fertilizer or cash money. The cane producers receive credit which has to be paid with a fixed amount of cane. Another option for the money lender is to deduct the loan plus a modest interest from the sales value of the cane at the time of harvest.
<i>Beli kwintalan</i>	Purchase contract for a plot or fixed amount of matured cane. A price is negotiated per 100 kg cane. The cane is usually harvested by the cane trader. An advance payment is made upon the agreement and a subsequent payment is done after the amount of cane is known.
<i>Bibit</i>	Cane cuttings, stalk with 2-4 buds.
Bimas	<i>Bimbingan Masal</i> (Mass Guidance), the national rice intensification programme for rice in Indonesia.
BIN	<i>Bank Industri Negara</i> ; State Industrial Bank founded in 1951.
<i>Blondong</i>	Filter mud which is used as fertilizer.
BP BIMAS	<i>Badan Pengendalian Bimas</i> ; Bimas Management Board. Advisory and coordination board for the national credit programmes under the Ministry of Agriculture. The board for example coordinates the Bimas and TRI programmes.
BPPGN	<i>Badan Penjelenggara Perusahaan Gula Negara</i> ; State Sugar Enterprises Administration Board. This organization was founded in 1945 to manage all foreign owned sugar mills.
BPU-PPN	<i>Badan Pimpinan Umum - Perusahaan Perkebunan Negara</i> ; General Management Board of State-owned estate enterprises. State corporation for the nationalized estate sector.

BPU-PPN Gula	<i>Badan Pimpinan Umum- Perusahaan Perkebunan Negara Gula</i> ; General Management Board of State Sugar Estate Companies, the conglomerate of state owned sugar factories.
BRI	<i>Bank Rakyat Indonesia</i> , People's bank of Indonesia.
BTI	<i>Barisan Tani Indonesia</i> ; Indonesian Farmers' Front: the farmers interest organization affiliated to the communist party PKI.
Bukopin	<i>Bank Umum Kooperasi Indonesia</i> , Cooperative Bank of Indonesia.
BULOG	<i>Badan Urusan Logistik</i> : National Logistics Agency. The organization got a monopoly on the national sugar market in 1976.
<i>Bupati</i>	The head of the local government and therefore the highest authority or the <i>Penguasa tunggal</i> at the district level.
BUUD	<i>Badan Usaha Unit Desa</i> , Golkar controlled sub-district cooperative which later amalgamated in the KUD.
<i>Buwo sumbangan</i>	Social institution for the reciprocal exchange of contributions for weddings or circumcisions.
<i>Camat</i>	Head of the sub-district government.
<i>Cukong</i>	Cane entrepreneur who produces sugarcane on an estate type enterprise. He relies on hired labour and involves agents to organize the labour process for a section of his cane.
<i>Dana saham</i>	Members' share fund, imposed by the Cooperative Department
DO's	Delivery Orders. Sugar certificate that entitled the owners to collect advance payments of the outgrowers' sugar share.
DGI	<i>Dewan Gula Indonesia</i> ; Indonesian Sugar Council. The council is an advisory board to the national government for the sugar market and price policies.
<i>Dibak</i>	Socio-religious group for women at village level related to the NU organization.
<i>Dokter gula</i>	The head of the sugar processing department who is also responsible for measuring and fixing the sugar content for the outgrowers.
<i>Dongkel</i>	Local technique of planting cane cuttings in the furrows of a harvested ratoon crop.
DPRD	<i>Dewan Perwakilan Rakyat Daerah</i> ; regional parliament, the members of which are elected for a five-year period.
FMPG	<i>Forum Musyawarah Produksi Gula</i> ; Sugar production consultation forum. The consultative body of the mill and the outgrowers at the level of the mill regime.
FMPW	<i>Forum Musyawarah Produksi Wilayah</i> ; Regional production consultation forum. The body which coordinates between the field staff of the mill, the cooperative, the TRI group chairmen, and the local government at the sub-district level.
<i>Gadai</i>	Pawn or mortgage on a loan in case land is used as security. There are various arrangements to regulate the usufruct rights in relation to the loan.
<i>Glebak</i>	A block of parcels of <i>sawah</i> , mostly irrigated from one source or canal, from which the mill rented a different 1/3 section every cane season for one Reynoso cane crop (12 to 14 months).

<i>Glebakan</i>	Crop rotation and land tenure system through which the mill's Reynoso cane production system is integrated in the irrigation and farming systems of the local communities.
<i>Gogolan</i>	Communal land tenure system used for <i>sawah</i> land. The land did not only belong to the communities alone, as traditional supra-local patrons also had claims on some of its yields. The usufruct rights were temporarily or permanently allocated to descendents of the village founders.
Golkar	<i>Golongan Karya</i> ; Functional group. The political party of the army and the bureaucracy, on which the New Order regime has been based since 1968.
<i>Gotong royong</i>	Exchange labour or mutual aid arrangements among the households in an RT, hamlet or village.
GP Ansor	<i>Gerakan Pemuda</i> Ansor, Youth movement of the NU organization.
<i>Hajji</i>	A person who has performed the pilgrimage (<i>hajj</i>) to Mecca, which is one of the five basic requirements of a devout Muslim if his financial position permits it.
Hansip	<i>Pertahanan sipil</i> ; civil security guard at the village level.
HKTI	<i>Himpunan Kesatuan Tani Indonesia</i> ; Indonesian Farmers' Unity Association. The official farmers' organization under the patronage of government officials.
<i>Ijon</i>	Pre-harvest loan with high interest rates. The credit is tied to the sale of the cane so that the capital and the interest can easily be deducted by the money lender.
INPRES	<i>Instruksi presiden</i> ; presidential order.
<i>Juragan</i>	Local entrepreneurs who manage large cane holdings for which they mainly use wage labour. In the villages studied many of them are <i>hajji</i> and aged, and therefore respected in their communities.
<i>Kabupaten</i>	District and the administrative unit under the province and above the sub-district which is headed by a <i>bupati</i> and has the lowest council of elected representatives.
<i>Kecamatan</i>	Sub-district, the lowest administrative level above the village, which is headed by a <i>camat</i> .
<i>Kelompok Tani</i>	Official farmers' group at village level which functions as an intermediate institution between the officials of the Ministry of Agriculture and the farmers community at the village level.
<i>Keprasan</i>	Ratoon cane
<i>Kyai</i>	Leader and teacher at a religious school. The <i>kyai</i> is influential through his alumni, who are often the <i>ulamas</i> or religious leaders in the region.
KKPPG	<i>Kelompok Kerja Pengamatan Produksi Gula</i> ; Sugar production inspection working group. A working group formed by the outgrowers organization with the function of controlling the mill officials responsible for the weighing, grading and measurement of the sugar content of outgrowers cane.

KORPRI	<i>Korps Pegawai Republik Indonesia</i> ; Organization of Indonesian civil servants Functional organization of civil servants under the patronage of Golkar.
KPKUD	<i>Kantor Pusat Koperasi Unit Desa</i> ; Cooperative Centre at the district level which has all the KUD's in the district as its members.
KPTR	<i>Kooperasi Petani Tebu Rakyat</i> ; Outgrowers cooperative at the sub-district level, between 1958 and 1977, linked to PKTR, the outgrowers organization of PG Kebon Agung.
KUD	<i>Kooperasi Unit Desa</i> ; Village level cooperative. The official cooperative at the sub-district level to provide services to and stimulate cooperation among farmers and owners of small enterprises.
<i>Kuli langganan</i>	Client labourers who work for one <i>juragan</i> and who can only work for other cane producers when the work for their patron is done.
<i>Kuli percaya</i>	Representative of a team of client labourers to whom the patron entrusts the special task of controlling the labour and acting as care taker.
<i>Kwintalan</i>	Cane purchase system in which only the price per quintal is fixed.
<i>Langgar</i>	Small house of worship constructed by a wealthier Islamic family or kinship group.
<i>Leng</i>	Cane ridge of 9.50 to 10 meter by 1 meter. Common surface measurement unit in the reynoso cane production system. From the Dutch <i>lengte</i> or length.
<i>Lepan</i>	One flooding of a crop planted on ridges.
LKMD	<i>Lembaga Ketahanan Masyarakat Desa</i> ; village resilience board responsible for planning the village's development activities.
LMD	<i>Lembaga Musyawarah Desa</i> ; village consultation board, which is an advisory board to the village head.
<i>Lurah</i>	<i>Kepala Desa</i> or village head.
<i>Madrasah</i>	Islamic primary and secondary schools.
<i>Madjelis Ulama</i>	The "Council of Ulamas" or Muslim Scholars, which is one of the governing bodies of the NU organization.
<i>Mandor</i>	Overseer of the cane cultivation and can harvest activities. The mill enrolled overseers for cane cultivation (<i>mandor tanaman</i>) and for the cane harvest (<i>mandor tebang</i>). The <i>mandors</i> of the outgrowers supervise both activities.
<i>Mantri Irigasi</i>	Official in charge of the operation and maintenance of technical irrigation systems.
Masyumi	Federation of all-Indonesian Muslim organizations, in which the leaders of the urban based Muhammadiyah and the rural based Nahdatul Ulama organization occupied the leading positions (1942-1958); "modernist" Muslims.
<i>Mengangsur</i>	System of renting cane land for several planting seasons in advance. The rents decline as the period between the payment of the rent and the actual tillage of the land lengthens.
Muhammadiyah	Mostly urban based Islamic organization.
MUSPIDA	<i>Musyawarah Pimpinan Daerah</i> ; Districts' leaders meeting.
MUSPIKA	<i>Musyawarah Pimpinan Kecamatan</i> ; Sub-district leaders meeting.

<i>Musyawarah mufakat</i>	Making decisions by consensus through a process of discussion and deliberation.
NU	<i>Nahdatul Ulama</i> ; Ulama's party, Islamic organization established in 1926 by conservative <i>ulamas</i> , who opposed the radical wing in the Sarikat Islam movement and the reformist Muhammadiyah; between 1943 and 1952 one of the constituent members of Masjumi, after which it became a separate political party. After it was forced to merge into the PPP Islamic party in 1973, it withdrew from politics and became a social organization.
NES or PIR	Nucleus Estate and Smallholders development programme or the <i>Perkebunan Inti Rakyat</i> approach.
NHM	<i>Nederlandsche Handel Maatschappij</i> : Dutch Trading Company, first the crown's shipping company which became a private trading and investment company, especially for the colonial estate sector.
NIVAS	<i>Nederlands Indische Vereeniging Afzet Suiker</i> , a government controlled sugar marketing agency.
Oosthoek	Easthook; the Eastern Corner of East Java, which included the districts Pasuruan, Probolinggo, Situbondo, Bondowoso, Banyuwangi, Jember and Lumajang.
OTA	<i>Ongkos Tebang Angkut</i> ; cutting and transport expenses for sugarcane.
OTHC	Oei Tjong Ham Concern; National and later multinational company trading and processing agricultural crops, owned by a Chinese entrepreneur who lived in Semarang.
<i>Pancasila</i>	Official Indonesian state ideology which is actively propagated by specific government agencies.
PBKTR	<i>Pemusatan Badan Koordinasi Tebu Rakyat</i> , central board for the coordination of outgrowers cane at the mill level. In 1958 the central coordination board was transformed into a secondary cooperative.
<i>Pedhot oyot</i>	Cutting the old rootstocks of ratoon cane to force the new suckers to form new roots.
<i>Pencakapan</i>	Share tenant arrangement in which the landlord and the tenant share the yield equally. The tenant is responsible for all cultivation expenses, and a few landlords also contribute for 50% of the fertilizers.
PETANI	<i>Persatuan Tani Nasional Indonesia</i> ; Indonesian Nationalist Farmers Union, the farmers organization of the PNI.
Pesantren	Islamic school where the Islamic preachers and scholars are educated.
Petermas (IMA)	<i>Persatuan Pemilik Tebu dan Penanam Tebu Rakyat Malang Selatan</i> ; the outgrowers organization for the Krebet Baru mill. Between 1954 and 1962 this organization had the legal status of a local company IMA (<i>Inlandse Maatschappij op Aandelen</i>). In 1958 the organization wanted to change the company into a cooperative, which was formalized in 1962.
PFB	<i>Personeel Fabriek Bond</i> ; Union of factory personnel, mill workers union affiliated with the Sarikat Islam.
PG	<i>Pabrik Gula</i> ; sugar factory.
<i>Pikul</i>	Local weight; 61.5 kg.
PKI	<i>Partai Komunis Indonesia</i> ; Indonesian Communist Party.

PKTR	<i>Pemusat Kooperasi Tebu Rakyat</i> ; top cooperative of the outgrowers cooperatives at the sub-district level in Kebon Agung's purchase area (1958-1977).
PNI	<i>Partai Nasionalis Indonesia</i> ; Indonesian Nationalist Party.
PMPA	<i>Peraturan Menteri Perkebunan Agraria</i> ; Ministerial Decree on Estate and Land Registry Affairs.
PPP	<i>Partai Persatuan Pembangunan</i> ; United Development Party. The party was formed through the forced amalgamation of three Muslim Parties in 1972.
<i>Priyayi</i>	Term used for the traditional government officials in Java, who were often aristocrats and had graduated from a training course for civil servants.
PSI	<i>Partai Sosialis Indonesia</i> ; Indonesian Socialist Party.
PT	<i>Perusahaan Terbatas</i> ; incorporated company with limited liability.
PUSKUD	<i>Pusat Kooperasi Unit Desa</i> ; Center for primary cooperatives. The centre for KUD's at the provincial level.
<i>Ramadan</i>	Islamic fasting month which ends with the <i>Idul Fitri</i> celebration.
Ratoon cane	Cane grown from the rootstocks of a harvested crop.
Rayon	Division of the procurement area of the mills.
<i>Rendemen</i>	Sugar content of cane, assessed by the mill for the outgrowers cane.
<i>Renteng</i>	A cane cutters team of two to six persons who harvest cane jointly.
Reynoso cane	Capital and labour intensive cane production system developed for irrigated <i>sawah</i> .
RK and RT	<i>Rukun Kampung</i> and <i>Rukun Tetangga</i> ; hamlets and neighbourhoods.
RTI	<i>Rukun Tani Indonesia</i> ; Indonesian Peasant Association.
<i>Robet</i>	Duplicate of the Delivery Order for the advance payment of sugarcane. The holder of the duplicate was entitled to receive the subsequent payment.
<i>Roges</i>	Stripping the old leaves from maturing cane.
<i>Santri</i>	Islamic scholar, the more self-consciously religious among ethnic Javanese and Madurese muslim.
<i>Sarasean</i>	Relaxed working meeting between the leaders of the KUD's from the sub-districts.
SatpelBimas	<i>Satuan Pelaksanaan Bimas</i> ; Bimas Executive Board. Coordination and implementation unit for the Bimas programmes at the district level.
Satpembimas	<i>Satuan Pembinaan Bimas</i> ; Bimas Advisory Board. Coordination and guidance unit for Bimas programmes at the provincial administrative level.
<i>Selamatan</i>	Socio-religious ceremony with a meal organized for the welfare and prosperity of the organizer's family and or enterprise.
SBG	<i>Sarekat Buruh Gula</i> ; Sugar Workers Union.
SI	<i>Sarekat Islam</i> ; Islamic association, which was the first nationalist movement. The movement split later into two fractions, a radical and a more reformist and conservative one.
<i>Sikep</i>	Wealthy landowning farmer.
<i>Sinder</i>	Supervisor of <i>mandors</i> .

<i>Sistem mengangsur</i>	A system of renting a plot for several years in advance for cane production. The rents decline as the time interval between payment and the season for which the plot is rented increases.
SK	<i>Surat Keputusan</i> ; official decree.
SPA	<i>Surat Perintah Angkut</i> ; Cane transport order.
SPSI	<i>Serikat Pemburuhan Seluruh Indonesia</i> ; Indonesian Association of Labourers. The official labour union under patronage of the government and Golkar.
SPT	<i>Surat Perintah Tebang</i> ; Cane cutting order.
SR	<i>Sarekat Rakyat</i> ; People's Associations, radical fraction in the SI movement.
STII	<i>Sarekat Tani Islam Indonesia</i> ; Indonesian Islamic Farmers League, a farmers interest organization founded by the Masyumi in 1946.
<i>Tahlil</i>	Prayer and religious discussion group for men of the NU organization.
<i>Tanah gogolan</i>	Community owned land which rotates temporarily, distributing usufruct rights among the descents of the village founders.
<i>Tanah yasan</i>	Privately owned and inheritable land holding.
<i>Tanah bengkok</i>	Community owned land of which village officials obtain the usufruct during their terms of office.
<i>Tanggung renteng</i>	Collective fund which serves as a groups guarantee to repay debts.
<i>Tebas borongan</i>	Purchase contract for a plot sugarcane as standing crop. The trader pays instantly a lump-sum and it then further responsible for the cane. The age of the crop varied from a young ratoon crop to a not yet matured crop.
<i>Tebas kwintalan</i>	Purchase contract of sugarcane for the future market. The cane is bought for a fixed price per quintal and the harvesting period is fixed as well. The sellers receive an advance payment on the basis of a conservative estimate of the expected yield.
<i>Tengkulak</i>	Cane trader operating at the sub-district level as an intermediate agent for contractors.
TRB	<i>Tebu Rakyat Bebas</i> ; free outgrowers cane.
TRI	<i>Tebu Rakyat Intensifikasi</i> ; outgrowers Sugarcane Intensification Programme. This programme regulated the institutional frame work for the credit and marketing regulation between outgrowers and sugar mills.
TRIK	<i>Tebu Rakyat Intensifikasi Kredit</i> ; cane for which TRI credits were allocated.
TRIN	<i>Tebu Rakyat Intensifikasi Non-kredit</i> ; cane for which no TRI credit funds are distributed but that is offered for processing to the mill in whose procurement area the cane is grown.
TRINSUS	<i>TRIN Khusus</i> or special TRIN cane. This category is used for TRB cane bought during the last two weeks of the crushing season for which the owners receive extra transport subsidies and a slightly higher sugar content.
TRIP	<i>Tebu Rakyat Intensifikasi Pupuk</i> ; people's cane intensification for fertilizer.

TRIS	<i>Tebu Rakyat Intensifikasi Sawah</i> ; credit package for cane cultivated on sawah.
TRIT	<i>Tebu Rakyat Intensifikasi Tegal</i> ; credit package for cane cultivated on tegal.
TS	<i>Tebu Sendiri</i> ; mill managed cane.
<i>Tukang beli tebu</i>	Petty cane traders with little capital of their own.
<i>Uang rokok</i>	Cigarette money, tipping system for subordinates.
<i>Uang semir</i>	Bribe paid to an official for a public service.
<i>Uang setera gula</i>	Advance payment by the mill to the cane contractor on a bulk TRB cane supply contract.
<i>Uang Sidang</i>	Attendance fee.
<i>Ulama</i>	Leader of a mosque and Islamic preacher at the village level.
<i>Ungaran</i>	Plant cane crop; cane grown from cane cuttings.
YATRA	<i>Yayasan Tebu Rakyat</i> ; Foundation of sugarcane outgrowers (1949-1958).
VOC	<i>Vereenigde Oost-Indische Compagnie</i> ; United East India Company.
<i>Waduk</i>	Water reservoir constructed to store irrigation water.
<i>Wali lobang</i>	Technique to rejuvenate ratoon cane in the <i>tegal</i> zone by transplanting the new ratoon suckers deep in the furrows of the old crop.

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SAMENVATTING

Deze studie handelt over sociaal-economische koppeling (linkages) tussen de Javaanse suiker-industrie en agrarische gemeenschappen in hun achterland. Deze verbindingen trekken reeds lang belangstelling van zowel historici als sociale wetenschappers. Schakelingen tussen economisch actoren in produktketens worden gevormd door organisaties en daarbinnen relaties tussen economisch en politieke actoren, die via onderhandelingen de verdeling van de toegevoegde waarden trachten te beïnvloeden. Economische schakelingen kunnen zeer complex zijn vanwege de betrokkenheid van de overheid en de vele informele sociale netwerken waarbinnen actoren hun politiek en economisch handelen coördineren.

In deze studie worden de economische verbindingen in de Malangse suiker sector beschreven en geanalyseerd. De studie is onderverdeeld in drie delen. Het eerste deel bediscussieert de theoretische, historische en regionale kader van de studie. Het tweede deel presenteert de huidige organisatie en het functioneren van het regionale suikerproductie systeem op het dorpsniveau. In het laatste deel wordt een vergelijkende analyse gemaakt van de huidige organisatie in de verschillende agro-ecologische zones, tevens van de interacties tussen de actoren in verbindingen van het suikerproductie systeem tussen het dorps- en regionale niveau. Het veldwerk voor deze studie is verricht gedurende het suikerrietseizoen 1990/1991.

De koloniale overheid initieerde de verbouw van suikerriet op gronden van gemeenschappen die natte rijst verbouwden. De beamtten organiseerden de rietteelt en de suikerexport, de overheid besteedde de suikerproductie uit aan allochtone ondernemers. Liberale partijen in het moederland dwongen de koloniale overheid om de hele produktketen aan ondernemers over te laten en zich te concentreren op regelgeving en dienstverlening. De koloniale overheid hanteerde het belastingstelsel om bijna kosteloos toegang te krijgen tot het land en de arbeid van de dorpsgemeenschappen. De allochtone ondernemers huurden deze produktiemiddelen, maar de beamtten en lokale elite assisteerden hen om de huren en lonen laag te houden. In deze specifieke combinatie schuilde de concurrentiekracht van de Nederlands-Indische suikerindustrie.

Na het uitroepen van de onafhankelijkheid in 1945 voerden de politieke en maatschappelijke organisaties heftige debatten over de wenselijke organisatiestructuur van de plantagesector waarbij twee onderwerpen centraal stonden: de eigendomsstructuur en de bindingen tussen de dorpen en de agro-industrie. In 1958 nationaliseerde het regime van de Oude Orde de buitenlandse suikerondernemingen en vormde deze om tot staatsbedrijven. De sociaal politieke ontwikkelingen maakten het onmogelijk voor de fabrieken om land en arbeid goedkoop te huren, omdat de beamtten niet langer politieke druk konden uitoefenen voor een productie systeem dat geassocieerd werd met de koloniale periode. Het Oude Orde regime wilde het koloniale-plantagesysteem vervangen door een contractstelsel waarbij de landeigenaren zelf het riet verbouwden. Slechts in enkele regio's, waaronder het Malang district, waren de lokale ondernemers sterk genoeg om de suikerfabrieken te bewegen over te schakelen op riet aankoop van particuliere riettelers.

Na de militaire staatsgreep in 1965 werden de linkse organisaties geëlimineerd. De nieuwe machthebbers introduceerden een hiërarchische overheidsorganisatie naar militair model en trachtten de staatshuishouding op orde te brengen. De reorganisatie van de suikersector nam het regime van de Nieuwe Orde ter hand nadat het de eerste successen boekte in de rijstsector. Het regime volgde het advies van de Wereld Bank op om het plantagesysteem om te bouwen tot een geïnstitutionaliseerd contractteelt systeem. De overheid introduceerde tripartite coördinatiefora op alle bestuurlijke niveaus en ook voor elke fabriek. De formele telersorganisaties, telersgroepen op dorpsniveau en coöperaties op het niveau van sub-

districten, werden verantwoordelijk voor het beheer van een credietprogramma dat tot doel had de suikerrietteelt te intensiveren. Tevens ging de overheid de suikermarkt reguleren door jaarlijks de suikerprijs voor producenten, distributeurs en consumenten vast te stellen.

Hoofdstuk vier behandelt de Malang regio, waar drie kolonisatiegolven onderscheiden kunnen worden. Als eerste ontgonnen Javaanse gemeenschappen het gebied rond Malang stad, waar natte rijst verbouwd kon worden. Kolonisten vanuit het noordelijke kuststreek van Java en het eiland Madura, die overwegend Islamitische waren, vestigden zich in de centrale Malang vlakte rond 1830, waar zij landbouw bedreven zonder irrigatie. In dit gebied legde de koloniale overheid rond 1905 een groot irrigatiesysteem aan om de verbouw van natte rijst en riet mogelijk te maken. Rond 1880 gaf de koloniale overheid erfpachtcontracten uit aan allochtone planters in het Zuid-Malangse kalkgebergte voor de aanleg van koffieplantages. Maduresen en Javanen vestigden zich in dat gebied om op de plantages te werken en trachtten tevens land te verwerven. Daarin slaagden zij tijdens de Japanse bezetting en de onafhankelijkheidsstrijd toen zij de plantages bezetten.

In elk van deze drie gebieden, met verschillende agro-ecologische en sociaal-culturele condities voerde de schrijver een dorpsstudie uit. Het doel hiervan was om verbanden tussen deze condities en de organisatie en interactiepatronen in de productie en handel van suikerriet te analyseren. De resultaten van deze studies worden beschreven in de hoofdstukken vijf, zes en zeven.

In hoofdstuk acht wordt een vergelijking gemaakt tussen de drie dorpen. Het waren de huishoudens met grotere bedrijven die suikerriet verbouwden in alle drie dorpen. Familiebedrijven volhardden langer in de verbouw van geïrrigeerde of droge rijst omdat zij de netto opbrengsten hoger achtten dan van riet. De dorpen verschilden sterk met betrekking tot de bedrijfsgrootte en de aanwezigheid van lokaal ondernemers betreft. In het dorp met geïrrigeerde landbouw waren de verschillen in bedrijfsgrootte klein, maar controleerden ondernemers van buiten het dorp 66% van het riet. In de gebieden met drogegrondslandbouw waren de verschillen in bedrijfsgrootte groot en domineerden lokale ondernemers de suikerrietteelt. In de studie worden deze verschillen verklaard vanuit de specifieke kolonisatie geschiedenis van de dorpen, en de effecten van respectievelijk geïrrigeerde- en drogegrondslandbouw op de lokale sociaal politieke verhoudingen. In de dorpen met irrigatie domineerden de dorpsleiders de verdeling van grond- en waterrechten, en de verbindingen met de supra-lokale instellingen. In de drogegronds-landbouwgebieden hadden de eigenaars van grotere bedrijven ook gezag als werkgevers en handelaren, en hadden ook naast de dorpsleiders verbindingen met organisaties op het district niveau.

Op de geïrrigeerde kleigronden prefereerden de boeren rijstteelt boven rietteelt bij de huidige prijsverhoudingen. Dit contrasteerde met de geïrrigeerde zand- en leemgronden en de drogegrondsgebieden waar de boeren hogere netto-opbrengsten van riet behaalden dan voedingsgewassen. De ondernemers in deze gebieden verbouwden reeds lang suikerriet en het bestuurlijke apparaat rechtvaardigde het opleggen van pachtcontracten aan families met kleine bedrijfjes aldaar met economische argumenten. De kleine boeren kwamen daardoor in de schulden en zij moesten hun tuinen verhuren om te overleven. Alleen boeren met kleine bedrijven in het centrale suikerrietgebied slaagden erin om grond te huren voor rietteelt door middel van deelbouwcontracten.

De gevolgte teelttechnieken varieerden voor de verschillende agro-ecologische zones en categorieën van riettelers. Alleen de suikerfabriek verbouwde nog planriet op geïrrigeerde gronden (Reynoso productie systeem). Deze arbeids- en kapitaalintensieve techniek

resulteerde in hoge suikeropbrengsten per hectare. De particuliere telers haalden meerdere snitten van hun rietvelden voordat zij de wortelstokken verwijderden (ratoon productie systeem). De technisch ervarener en kapitaalkrachtiger riettelers verjongen hun rietgewas elke vier tot zes jaar, zodra de produktiviteit afneemt. Armere telers en ondernemers in de drogegrondsgebieden stellen de verjonging uit vanwege de hoge investeringen en risico's die met plantriet verbonden.

De bedrijfsgrootte en woonplaats van de ondernemers beïnvloedden de organisatiestructuur van de productie-eenheden. De telers met kleinere bedrijven en lokale ondernemers namen zelf de teelttechnische beslissingen. De eerste categorie gebruikten met name familiearbeid en de tweede loonarbeid. De regionale ondernemers en de suikerfabriek hebben hun rietonderneming verdeeld in productie-eenheden van 4 tot 10 hectare. De ondernemers hebben commissiecontracten met hun koppelbazen. De fabriek heeft arbeidscontracten met haar opzichters, die voor hen het arbeidsproces organiseerden en controleerden. Riettelers op middelgrote bedrijven of met goed betaalde nevenactiviteiten vulden familiearbeid aan met loonarbeid in geval van arbeidspieken.

Het waren vooral de ondernemers en de suikerfabriek die grond huurden van lokale landeigenaren. De ondernemers huurden rietvelden via persoonlijke leningen die door toekomstige pachtrechten werden betaald. De regionale ondernemers werkten met lokale agenten die voor hen bemiddelden. Het dorpshef, die als tussenpersoon voor de suiker fabriek optrad, oefende politieke druk uit om landeigenaren tot verhuur te bewegen. Deze druk leidde tot conflicten tussen de landeigenaren en de dorpsleiding.

Ondernemers en de suikerfabriek trachtten de arbeidskosten laag te houden en arbeidsconflicten te voorkomen door te werken met stukloon en lokale koppelbazen. De riettelers met kleinere bedrijven rekruteerden arbeiders via hun familie- en buurtnetwerken en betaalden hen de gangbare dagloontarieven. Voor sociale zekerheid vielen deze arbeiders terug op hun familie- en buurtnetwerken. De ondernemers in de meer geïsoleerde gebieden werkten met teams van vaste rietwerkers. Vast wil in dit verband zeggen dat de ondernemer en de arbeiders zich bonden voor de specifieke werkzaamheden door aanbatalingen op arbeidscontracten. In geval van sociale problemen konden arbeiders een beroep op hun patroon doen op grond van het patroon-cliënt model, echter ondernemers tonen zich in toenemende mate onverschillig naar deze rechten van hun contractarbeiders, hetgeen resulteerde in conflicten. De regionale ondernemers en de suikerfabriek hadden hun tussenpersonen verantwoordelijk gemaakt voor de arbeidsrelaties en bleven daardoor zelf buiten de arbeidsconflicten.

De beschikbaarheid van credietfondsen en de sociale netwerken van de dorpselite beïnvloedden sterk de verdeling van fondsen van het officiële credietprogramma. De TRI-instituten stelden voldoende fondsen beschikbaar voor de telers in de gebieden met irrigatie maar beperkten deze voor de drogegrondsgebieden om risico's te beperken. De leiders van de telersgroepen bevoordeelden sterk hun eigen onderneming of deze van hun familieleden bij de verdeling van de credietfondsen. Ondernemers in het centrale rietgebied hebben alternatieve fondsen aangeboord om de handelsbeperkingen van de TRI-instituten te omzeilen.

Drie agro-industriële verbindingen werden gevonden in de dorpen. Voor de suikerfabriek en regionale ondernemers vormden de pachtrelaties via hun agenten en de arbeidsrelaties via hun bemiddelaars de koppeling met de landbouw op dorpsniveau. Voor de fabriek bestond er geen handelsrelatie, en de regionale ondernemers leverden riet via de formele en semi-formele

handelskanalen aan de fabrieken. Riettelers die gebruik maakten van officiële kredietfondsen moesten zich onderschikken aan de krediet- en marketing voorschriften van de TRI-instituten. Voor de riettelers die geen gebruik maakten van het officiële krediet programma vormden de markten en netwerken van suikerriethandelaren de koppeling met de suikerfabriek. Dit gaf hen de mogelijkheid hun riet te oogsten wanneer het suikergehalte en diens gevolge de suikerrietsprijs hoog was.

Regionale ondernemers hadden uitgebreide productie- en handelsnetwerken opgebouwd in de suikerrietgebieden. Zij verschaften leningen en sloten marketingcontracten met riettelers. Zij stelden productie- en handelskapitaal beschikbaar aan hun lokale agenten, die op commissie- of winstdelingsbasis voor hen werkten om zoveel mogelijk vrij riet vast te leggen voordat de campagne begon. De fabrieken trachtten het riet van deze ondernemers te malen om hun produktiedoelstelling te halen en boden hen daarom speciale faciliteiten.

De krediet- en marketingregelingen en het desbetreffende uitvoeringsbeleid van de TRI instituten gaven aanleiding tot coalitievorming tussen de verschillende categorieën politieke en economische actoren. Binnen de TRI-instituten op het supra-lokale niveau bestaat reeds lang een alliantie tussen het politiek-bestuurlijke apparaat, de leiders van de formele organisaties van de riettelers, en de leiding van de suikerfabrieken. Deze alliantie is enerzijds gericht op verhoging van de productie en toevoer van suikerriet aan de fabrieken, en anderzijds op beheersing van belangenconflicten tussen de betrokken categorieën economische actoren. Tevens trachtten de drie partijen de regelingen die zij controleren zo uit te voeren dat zij er neveninkomsten uit kunnen verwerven, hetgeen vaak ten koste ging van de slecht geïnformeerde riettelers, die aangewezen waren op gesubsidieerd krediet.

Essentieel in dit verband waren de verbanden die suikerriettelers hadden met beampten van de TRI-instellingen en de suikerriethandelaren op het supra-lokaal niveau. Via deze persoonlijke relaties ontvingen de ondernemers informatie over de krediet- en rietmarkten, en konden zij de uitvoering van de markt regelingen in hun voordeel beïnvloeden. Dit moesten zij dan wel financieel aantrekkelijk maken en geheim houden voor de functionarissen in de TRI-instellingen en het politiek-bestuurlijke apparaat.

Staatspatronage over de officiële riettelersorganisaties resulteerde in nepotisme en in sommige subdistricten in grote schulden. De TRI-instellingen trachtten deze schulden te verbergen, maar nadat de nationale TRI-instelling de criteria voor kredietwaardigheid had aangescherpt, werden de coöperaties met grote schulden uitgesloten van nieuwe kredieten. De suikerfabrieken namen deze verantwoordelijkheid tijdelijk op zich, tot groot ongenoegen van de informele leiders. Deze leiders zagen in dit beleid een bevestiging van de hegemonie van de fabrieken, en in hun ogen ging het om een strategie van de politieke leiders om de riettelers op te laten draaien voor de schulden die door beampten en formele leiders veroorzaakt waren. De informele leiders vormden coalities met de overige categorieën van telers om bij openbare verkiezingen te stemmen op kandidaten voor de functie van dorps- en telersgroepleider, die zich committeerden aan de belangen van alle riettelers.

In hoofdstuk 10 wordt de fractiestrijd binnen de coöperatie van Gondanglegi sub-district geanalyseerd. De Islamitische leiders en ondernemers mobiliseerden de riettelers om hervormingen af te dwingen binnen de coöperatie die de inofficiële inkomsten van de leiders van de formele telersorganisaties beperkten. Ook dreigden zij de monopolie van de suikerfabriek te beperken indien de fabriek lagere prijzen voor het riet betaalde dan fabrieken in omliggende districten. Tot slot wilden zij de vervolging van de personen die verantwoordelijk waren voor de schulden van de coöperatie. Beide fracties hadden hun persoonlijke relaties met politieke leiders op het districts-niveau, en die als hun beschermheren

optraden en met wie zij hun acties coördineerden. Dit conflict toonde aan dat de regionale politieke leiderschap de officiële agro-industriële koppelingen kunnen opleggen en de grenzen kunnen stellen voor de onderhandelingen en fractiestrijd binnen formele riettelersorganisaties.

De studie concludeert dat geïnstitutionaliseerde contract-teeltsystemen ingebed zijn in regionale sociale en politieke organisaties. Nationale instellingen kunnen regelingen afkondigen maar zijn afhankelijk van de leiders van regionale en lokale organisaties voor de uitvoering hiervan. De studie toonde aan hoe naast de formele instellingen van contractteelt semi-officiële handelsnetwerken functioneren binnen de Malangse suikerindustrie. Verder hoe de dorpselite verbindingen opbouwen met de politieke, economische en religieuze organisaties op het regionaal niveau. De deelname aan economische zowel als politieke- of religieuzenetwerken bevordert cognitieve vaardigheden en het denken over normen en waarden. De lokale leiders kunnen deze vaardigheden aanwenden voor eigen materiële voordelen, maar ook om allianties te vormen met riettelers die benadeeld worden door het functioneren van het regionale produktiesysteem. Deze netwerken van de informele leiders van de telers gaan hooguit tot districtsniveau en daardoor is hun invloed op de onderhandelingen op het nationale en regionale niveau beperkt. Indien de belangen van het politiek-bestuurlijke apparaat en de agro-industrie worden geschaad, dan vormt de regionale politieke leiderschap een gesloten front en verwijzend naar nationale juridische regelingen beslechtten zij de strijd in het voordeel van hun cliënten, de leiders van de telersorganisaties onder overheidspatronage. Echter door middel van gecoördineerde acties trachten de riettelers het functioneren van het regionale produktiesysteem te hinderen om zo een gelegenheid te creëren om de organisatievorm, het beleid of de uitvoering van het beleid aan te passen aan belangen van categorieën van riettelers die uitgesloten zijn van de alliantie binnen de TRI-instellingen.

ABSTRACT

The linkages between the Javanese sugar industry and the village communities have drawn the attention of both historians and social scientists. The formal organization of these linkages has changed drastically since Indonesia's independence; from plantation into outgrowers production contract systems. The Indonesian government nowadays regulates the sugar markets and the tripartite institutional structure, coordinating activities between the outgrowers' organizations and the mills, under directives of the district government.

This study, based on field data collected during the 1990/1991 cane growing season, is a sociology of economic life, dealing with organizational changes in the agro-industrial linkages in the sugar sector in one particular region. The first section of the book describes the long-term changes in the organizational structure of the sugar industry, both on the national and regional levels. The book then discusses the current organization of cane production and local-level marketing. The results of three village studies from different agro-ecological zones are presented in the second section. The book finally gives a comparative analysis of the organization of cane production and the patterns of interaction in the different agro-ecological zones. This comparison is related to an analysis of the interactions between actors with differing interests in the institutions and informal networks that form Malang's sugar production system at the supra-local level.

Curriculum Vitae

Aard Hartveld was born in Marknesse (Noordoostpolder), the Netherlands, and as a child became acquainted with the activities and management of a mixed farm. After finishing the Hogere Landbouw School in 1971, he worked for the Organization of Netherlands Volunteers as an agricultural extension worker in some of the Thika-Yatta Haraka Settlement schemes of the Kenyan Ministry of Lands and Settlement.

From 1977 until 1981 he worked part-time as secretary for a young-farmers association in the province of Overijssel and at the same time studied sociology at the Rijks Universiteit Groningen. After obtaining his B.A. degree he continued with the doctoral programme in Cultural Anthropology, which he interrupted from 1982 to 1984 for a contract with the Belgium NGO Coopibo, working as coordinator for the agricultural programmes in a community development project in South East Sulawesi. In 1985 he obtained an M.A. degree in Development Studies with the specialization Agriculture and Rural development at the Institute of Social Studies in The Hague.

The author obtained a position at the Institute of Social Studies, which posted him as social scientist to a Dutch sponsored integrated irrigation development project in South Sulawesi, Indonesia. In this project he acted as advisor for the non-technical components of integrated irrigation development, and concentrated on the land reform, settlement and agricultural extension programmes.

The author shared with his wife the position of internal project leader of the cooperative project for the development of social sciences between the Rijksuniversiteit Leiden and the Universitas Brawijaya in Malang, East Java between 1989 and 1992. In 1990 he combined this part-time position with that of coordinator for the cooperative programme between the Universitas Brawijaya, the Landbouwniversiteit Wageningen, and the Rijksuniversiteit Leiden. In 1991 he did the fieldwork for this study and returned to the Netherlands, earlier than planned, after the termination of the development cooperation relation between Indonesia and the Netherlands early in 1992. While writing this thesis he did various short-term assignments both in Indonesia and Bangladesh.