The Household Responsibility System and Social Change in Rural Guizhou, China: Applying a cohort approach

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Thesis

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Table of Contents

List of Tables

List of Figures

List of Acronyms

ACWF	All-China Women's Federation
CAB	County Agricultural Bureau
CAPAO	County Agriculture and Poverty Alleviation Office
CBNRM	Community-based Natural Resource Management
FGDs	Focus Group Discussions
GPG	Guizhou People's Government
GPLSSD	Guizhou Provincial Labour and Social Security Department
GSGSSB	Guizhou Survey Group of State Statistics Bureau
HRS	Household Responsibility System
IDRC	International Development Research Center, Canada
IFAD	International Fund for Agricultural Development
KPG	Kaizuo People's Government
RCRE	Research Center for Rural Economy
ROSCA	Rotating Savings and Credit Association
RTDI	Rural Transformation and Development Institute
SPONRMT	Sunshine Project Office of National Rural Migration Training Project
XNA	Xinhua News Agency
WRDPO	Western Region Development Office

Glossary

Buyi	Ethnic group living in Guizhou
Dangjia	Manager of the household who arranges and makes decisions about household activities
Fengshui	A kind of belief
Fenzao	Own cooking stove, metaphor for own separate household
Guanxi	Social network/social connections
Hukou	Residence permit/household registration, there are two kinds of *hukou*: rural *hukou* and urban *hukou*
Hukoubu	Official register of households and their members
Huzhuzu	Self-help group in the collective era
Jiating	Family, see page 19 and page 20
Jin	2 *jin* = 1 kilogram
Mu	15 *mu* = 1 hectare
Niangjia	Natal household of the wife
Renqilaoshan	Food allocation system in the collective era, in which a household got 70 percent of the amount of food according to household and 30 percent according to earned workpoints
Shazhufan	Special meal during the Chinese Spring Festival at which a household slaughters a pig and invites relatives and friends to consume it together
Shangmenglvxu	Husband who does not live with his wife in or near his own natal household and lives in his wife's natal household
Suomei	Match making
Yuan	6.8 *yuan* = 1 US$ (year 2009)
Zahui	A kind of Rotating Savings and Credit Association
Zhailao	Informal village leader who helps the village leader with village affairs
Zuojia	A Buyi woman who lives in her natal household for several years after marriage

Chapter 1
Introduction

1.1 Motivation of the research

When I came to Wageningen University for my PhD study, I had been involved for seven years in a community-based natural resource management project, funded by the International Development Research Center (IDRC, Canada). I had been working in research during these years and could observe many changes. From the villagers and local officials I also heard about the changes taking place. During the past two decades, the impacts of both the Household Responsibility System (HRS)[1] and migration have become visible in a major way. Men and young people migrate, leaving women and the aged at home to manage the field and natural resources. The natural resource management (including land use) is undergoing change because of labour shortage and other factors.

My tentative topic for the PhD study was community organization and natural resource management. I was interested in understanding women's organizations at the community level, not so much in phenomena at the individual or household level. After I began to study at the chair group of Sociology of Consumers and Households at Wageningen University, I became interested in the concepts of household and livelihood and the perspectives they represent. This motivated me to reformulate my research topic and try to open the 'black box' of the household, chiefly because the household became the unit of agricultural production from the moment the Household Responsibility System was implemented. In developing the research proposal, I applied the concepts of household and livelihood to address the topic of rural social change in relation to natural resource management and changing land use. Gender was seen as a cross-cutting issue from the start of the research. Thus, this research focuses on the interrelated dynamics of household change, changing livelihoods, land use, and changing gender roles.

1.2 Setting the stage for the research

Chinese rural households have experienced many changes after the introduction of the Household Responsibility System (HRS) in 1978. HRS allows farming households to organize their own agricultural production on contracted land, which enables them to work more efficiently and get more benefits, as compared to the situation during the collective era. Because of market liberation, an increasing number of small enterprises can absorb the surplus labour, and many men migrate to earn cash. This entails changes in gender roles in the rural areas, leading to a feminization of agriculture (see, for example, Zuo, 2004) and women becoming *de facto* household heads. Household landholding, land use and livelihoods are changing, while social differentiation is increasing. As a consequence, farming

[1]The Household Responsibility System (HRS) means that collective land is allocated to rural households to manage, which started in China at the end of 1970s.

households' needs for agricultural extension are increasingly diverse and can no longer be accommodated by the traditional top-down extension system.

The Household Responsibility System (HRS) was introduced in 1978. At the center of the HRS was the allocation of parts of the collective land to households to manage autonomously. Through this allocation, each household member is entitled to an equal piece of land. The household became the unit of production. It gets all the production benefits after the taxes to the collective and the state are paid. The land contract period was 15 years at the beginning of HRS, but was later extended to 30 years (Christiansen, 1990; Guan, 1987; IFAD, 1995; Lin, 1987a). However, the collective still is the owner of the land, while the household only has usufruct rights. By the end of 1983, over 97 percent of the collective teams in China had been converted to the HRS (Lin,1991a).

After the introduction of the HRS, a large number of other policies were formulated and regulations implemented, like, for instance, market liberalization policies and the one-child policy, which had strong impacts on rural households. Rural households are still undergoing many changes with regard to structure, composition, function, gender roles, division of labour, and livelihood strategies (Bossen, 2002; Chen, 2004a; Christiansen, 1990; Cohen, 1992b; Goldstein, et al. 1997; Judd, 1990; Kertzer, 1991; Murphy, 1987; Vermeer, 2006; Whyte, 1992). It is a complex change process. The HRS is interrelated with many other new policies, and a diversity of factors play a role in how the system functions in reality. As a result, in rural areas, socio-economic differences are increasingly becoming larger, leading to social change and shifts in power balances (Benjamin and Brandt, 1999a; Guan, 1987; Murphy, 2000a). There is a lot of research on social differentiation, but the focus tends to be on the macro-level, and only little research is focusing on analyzing its relationship with household changes. The All-China Women's Federation (ACWF, 1991) did research on the impact of economic reforms on women and reports that the proportion of nuclear families is increasing, comparing the impacts for two generations. Chen (2004) studied the division of labour within the household between mother-in-law and daughter-in-law before the HRS and after the implementation of the HRS. Wang (2003b) examined the change of the household structure, and concludes that the joint household ceased to exist after the 1990s. Mallee (1996) discussed the relation of migration to both the household life cycle and the household structure. Christiansen (1990) analyzed changes in rural households in Jiangsu province since 1978, and concludes that these changes are influenced by both exogenous and endogenous socio-economic factors. According to Short (1996b), the implications of these changes for Chinese families and households are not well understood. Thus, research on these questions is highly relevant.

Migration of young migrants (both men and women) and older migrants (men) increased during the past decades as well (ACWF, 1991; Fan, 2003a; Mallee, 1997), leading to more *de facto* female household heads(International Fund for Agricultural Development (IFAD)), 1995). Increasingly, women are involved in agricultural production, leading to the feminization of agriculture (Zuo, 2004) and women's increased decision-making power on farming issues (Chen, 1996); Song, 1998; Song and Jiggins, 2000). Sometimes, women continue to act as the household head even after the husband returns (Goldstein et al., 1997). A lot of households

engage in migration (Christiansen, 1990; Mallee, 1997; Song, 1998) and livelihood diversification is increasing, extending to off-farming and non-farming activities. Agricultural production is becoming a sideline activity for an increasing number of households and, as a result, the income from agricultural production is frequently decreasing (Christiansen, 1990). Rural households continue to practice agricultural production as a form of household security. Sometimes, however, they cannot get (enough) benefits from it and need to invest in off-farm and non-farm income-generating activities (Mallee, 1997).

Landholding began to change under the HRS. Some households rent their land out, while others rent in. Land is consolidated to some extent, but also lies fallow because of labour shortages (Goldstein et al., 1997). With the HRS, women's entitlements to land became an emerging issue. Although the law entitles women to land from the collective to cultivate, they often lose access to the land when they move to the husband's place after marriage (Fan, 1991b; Li, 2003; Zhang, 2002a). Land use practices are increasingly diversified, especially among the pure farming households and low-income households. High-income households and households with better-educated members are inclined to mono-cropping and cultivating cash crops (Ouyang et al., 2004). These processes also raise questions about the adequacy of agricultural extension. However, the communication between farming households and the extension sector is weak, and the role of the government in agricultural extension is decreasing (Lin, 1991a).

These changes provide the opportunity to examine the interrelationships between household, gender, livelihood, and social change. Existing research may target only one or two aspects, such as the effects of out-migration or changes at the individual level, or in gender roles. Comprehensive research as has been conducted in this study, which takes into account all these aspects and their inter-relationships and looks at how different cohorts of women and households are affected by these changes, is still missing. To date, there is only one study on social change that uses a cohort approach to investigate the change in women's position in rural China (ACWF, 1991). This study is the first that applies the cohort approach and uses a gender perspective to gain insights into the changes in farming households since the introduction of the Household Responsibility System.

1.3 Problem statement and research objectives

The problem statement of this research can be formulated as follows:

> *How did the introduction of the Household Responsibility System change farming households, gender roles and rural livelihoods, and what were the implications of these changes for agricultural extension and their consequences for social differentiation in rural society?*

Hence, this research aims at identifying the changes in the farming household, gender roles, and rural livelihoods after the introduction of the Household Responsibility System (HRS) and at understanding the heterogeneous household land use practices in the context of diversified livelihood portfolios in a context of social change. It also aims at providing policy recommendations for agricultural technology extension. More specifically the study's objectives are the following:

- to gain insight into the changes in farming households after the implementation of the HRS;
- to analyze the relations between the changes in the household, gender roles, livelihood, and land use strategies, and their impacts on rural society;
- to indicate how agricultural extension policies can better accommodate the increasing farming household heterogeneity, particularly regarding household land use.

1.4 Relevance of the research

The scientific significance of this research lies in its contribution to theory on livelihood, gender and social change, by providing insights into the interrelated dynamics of household changes, livelihood changes, and gender role changes, using a cohort approach.

In 1978, the implementation of the Household Responsibility System initiated changes that went beyond the household's control over land and agricultural production, affecting livelihood portfolios (including migration), gender roles, and social differentiation. These changes allow us to examine the interrelationships between household structures and entitlements, gender, livelihood, and social change. Research has been done on the topics of household structures and gender roles, also in a development context (Kabeer, 1991; Kabeer, 1995; Moser, 1993); livelihood and gender (Hussein and Nelson, 1998; Niehof, 2004b); and women's access to land in relation to land use (Agarwal, 1994b). However, studies that focus on the dynamics of the relations between the changes in gender roles, household, rural livelihood, and land use are rare. Examples are an article on the changes in the effects of conjugal assets on the household division of labour in different socio-cultural contexts in Taiwan (Lu and Yi, 2005) and a study on the impacts of economic development on different cohorts of rural women in China (ACWF, 1991).

The research will apply a life course perspective and a cohort approach to the changes in the interrelationships outlined above, as was also done in an article on household and gender (Kertzer, 1991). The significance of the concept of cohort for the study of social change was first argued in an influential article by (Ryder, 1965). Ryder's method will be applied to this study. In doing so, the combined experiences and lives of different cohorts of women will provide the insights into the mechanisms involved in the interrelated changes.

A final argument of scientific interest is that this study provides an opportunity to verify the notion of the household being a mediating agency between the individual and society at large (Pennartz and Niehof, 1999), because it assumes that the induced changes in household responsibilities and resources generate social change.

1.5 Location and timing of the research

This research was conducted in the municipality of Kaizuo, a town in Changshun (also referred to as Kaizuo Township) County, in the Qiannan Prefecture, in the province of Guizhou. Guizhou Province is a mountainous province, ranked as the

poorest province in China, located in Southwest China. Kaizuo is located in the southern part of Guizhou, counting 37 villages that belong to three administrative villages. There are 2127 households within a total population of 9620 (KPG, 2007).

The main fieldwork of this research was done from August 2007 to September 2008. The main research methods used in this investigation were key informant interviews, a household survey, focus group discussions (FGDs), the case study method, and participant observation. Secondary sources provided data on the research area.

1.6 Structure of this thesis

This thesis includes nine chapters besides this first chapter. Chapter 2 pictures the historical and social context of the questions addressed in the research. The collective period (1958 to 1978) and the HRS period (from 1978 onwards) are discussed. Then, the introduction of the market economy, migration, agricultural changes, and rural development activities after the implementation of HRS are addressed. The chapter concludes with a discussion on family and gender in China.

Chapter 3 comprises a literature review and discusses key concepts and their definitions. The concepts discussed include household, family, kinship, livelihood, migration, gender, and social differentiation. The last section presents the conceptual framework, the research objectives, and research questions.

Chapter 4 gives a general description of Guizhou Province and detailed information about the study area, the municipality of Kaizuo. Topics included in the description are the demographic profile, natural resources, land use, livelihood, and cultural aspects.

Chapter 5 describes the study design, fieldwork process, and data collection methods and analysis. Because the temporal perspective and the cohort approach play a key role in the research, the way they were applied receives due attention. The end of the chapter presents a reflection on the fieldwork experience.

Chapter 6 starts with a discussion on the relationship between cohort and life stage. By following the stages in the life course of the different cohorts, it can be shown how women of different cohorts experienced the different phases of their household's life course at different times. The next section looks more closely at marriage and household formation in the study area, now and in the past. Subsequently, the topic of female-headed households is discussed since there are relatively many of them in the study area, and the incidence of female headship of households seems to be increasing. Labour migration plays an important role in this trend. The core of the chapter is formed by the presentation of the life histories of eight women, based on extensive interviews with the women concerned. The chapter concludes with a general discussion of social change and women's lives, on the basis of the findings presented in the chapter.

Chapter 7 discusses human resources, physical resources, environmental resources and social resources of different cohorts in rural households. The livelihood portfolios and livelihood activities of four cohorts are discussed as well. Land use strategies are included in the discussion. The second part of this chapter provides an in-depth discussion about migration, which is increasingly common

and important to rural households' livelihood strategies. Gender issues in livelihood portfolios are addressed at the end of the chapter.

Chapter 8 describes household changes of different cohort households after the implementation of the HRS. The changes include marriage, household formation, household composition, and residence. Changes also happen in terms of the household livelihood portfolio, land use, and cropping patterns. Gender roles change in different cohorts. This chapter also discusses the migration motivation for different households, the impact of the HRS on the 1970s cohort and 1980s cohort households, and the impact of migration on all cohorts. The issue of food security during the collective period and the early years of the HRS is addressed as well.

Chapter 9 describes the formal agricultural technology extension system, as well as villagers' access to channels of information and their adoption of agricultural technology. It addresses the questions of whether the agricultural technology extension process matches the needs of the villagers and whether there are differences between older and younger cohorts of farming households in using extension services and adopting technologies. Furthermore, it will be pointed out that the migration context has an influence on the suitability of technologies and the feasibility of applying them.

In Chapter 10, the answers to the research questions can be found. Conclusions based on the results presented in the previous chapters are formulated. The chapter also presents a general discussion on key aspects of the research.

Chapter 2
Historical and social context

This chapter sets the context for this research. It discusses the commune period (1958 to 1978) and the HRS period (from 1978 onwards). Then the discussion turns to the transition to a market economy, the issue of migration, agricultural changes, and rural development activities after the HRS. The chapter concludes with a discussion on family and gender in China.

2.1 The collective era

In China, the institution of the commune was established after the land reforms and coop periods were completed in 1958. In that era, all land belonged to the commune and was under the management of the collective's production team. Farming households made their living by cultivating collective land. They only got a small home garden for private use. They contributed labour to the collective and got labour scores (work points) for this. Food distribution was based on these work points and the household size. According to the remuneration system, which is called the *renqilaoshan* system, each person received seventy percent of the food scores irrespective of working status, while the remaining thirty percent was based on the work points. Skill and physical strength determined one's work points and better skilled work earned more points (Wertheim, 1973). The farming arrangement was controlled by the collective leaders. The government was completely responsible for any technology extension, and extension services were top-down. Households lost most of their productive functions (Vermeer, 2006). The villagers were required to work in the field every day. The production team leaders arranged all the agricultural activities. The production efficiency was very low and rural households suffered a lot of food shortage problems, especially during the famine period, which lasted from 1959 to 1961. Many people died during these years. Animal husbandry was also arranged by the collective. Farming households only raised some poultry for their own consumption. From 1967 onwards, the government did not promote this because it was considered a capitalist trend.

According to Vermeer (2006), after 1949 the average household size substantially increased as a result of the land reforms. During the land reforms, land redistribution was conducted on a per capita basis, which led to an increase in average household size from 4.3 in 1953 to 4.9 in 1959. The government regulated the family's functions and took on most of the costs of having children (including their education, health care, and creating employment). Taking care of the elderly, however, was seen by the government as the household's responsibility, based on traditional values of filial obligation (Vermeer, 2006). In this collective period, the government proposed family planning and encouraged fertility decline, but not for ethnic minorities.

The farming households made their living by farming, except for a few family members who worked for the government. The farmers were treated as a homogeneous group and there was little social differentiation in rural society

(Barnett and Clough, 1986; Hu, 2005; Wang, 2003). The combination of endogenous forces and well-designed policies ensured that, at the local level, inequality would not rise significantly (Griffin and Vermeer, 1982). Nevertheless, village leaders might get more economic benefits during the distribution of resources. Households had different incomes because of differences in home garden management. The older women worked in the private home garden to generate additional income, while younger people worked in the collective fields (Wertheim, 1973). As Luong (1998:64) describes: "The main source of differentiation between neighbouring households depended upon the differing numbers of labouring hands in each family and the numbers of its dependents. Income differences between neighbours also resulted from the differing yields from household garden plots […] and the relatively meagre incomes earned by craft specialists and traders in the informal economy. Local cadres gained some slight economic advantages for themselves".

The government has promoted gender equality since the founding of the People's Republic of China in 1949. Since then, women's status has improved. Women were encouraged to work outside the household and attend collective production activities. Men and women were allowed to freely choose their marriage partners; marriage law prohibited arranged marriage.

In 1953, the government began to promote mutual assistance between rural households because some households could not manage the land allocated to them well enough. According to Potter (1990), in the initial form of collectivization introduced in 1953, in the mutual aid groups (*huzhuzu)*, kinsmen, friends, and especially close patrilineal relatives helped each other, reciprocating a labour exchange within one or two years. The hosts usually traded the labour for food, so no formal payments were made.

2.2 The "Household Responsibility System" (HRS)

The Household Responsibility System (HRS) started because of low agricultural production levels in the collective era and the inability of villagers to feed themselves. In the beginning of HRS, collective land was redistributed and allocated for management to every individual household, in such a way is that each villager was entitled to equal of land (Tan et al, 2006). The household became the production unit instead of the production team, as was the case in the collective era. Thus, the HRS restored the individual household and replaced the production team system as the unit of production and accounting in rural areas. The household was entitled to all the production benefits after paying taxes to the collective and the state. At the beginning, the land contract period was 15 years. Later on, in 1995, it was lengthened to 30 years (Christiansen, 1990; Guan, 1987; IFAD, 1995; Lin, 1987). However, ownership of the land still rests with the collective, while the household only has usufruct rights.

After the introduction of the Household Responsibility System (HRS) in 1978, it gradually became the principal method of rural management. Towards the end of 1984, the system was reported to have been adopted by 98.3 percent of the country's production teams. The agrarian communes ceased to exist and their agricultural lands were redistributed among their members. Rural households were free to organize their own time and resources and were encouraged to

become rich if they could (Melvyn et al., 1990). The farming household became the production and consumption unit, with its own decision-making on land use. Even though the state draws up a mandatory plan for the production of both agricultural and cash crops, farmers have the freedom to decide on the proportions of crops sown (Hu, 2005).

2.2.1 Initiation and implementation

The HRS was introduced from 1978 onwards. Its implementation started informally in the poorest provinces, such as the provinces of Anhui and Guizhou. It was initiated by farmers. Some production teams had contracted land to individual households to manage for several years before the formal implementation of the HRS. Only in 1978 did the central government begin to allow the HRS to be put into practice in a formal way.

The HRS emerged because farmers wanted to manage the land more efficiently and have a better life. In the collective era, incomes were very low, no matter how hard people worked (Lin, 1987). Feng (2004) notes that the HRS solved the inefficient use of public property that prevailed in the collective era. Christiansen (1990: 43) summarizes the situation as follows: "The farmer now has the right to use the land for agricultural production under the stipulations set out by the villagers' committee. He or she is not allowed to change the use of the land without permission, and he or she is not allowed to abandon the land or to transfer it to other peasants for cultivation without the consent of the villagers' committee, but he or she is free to decide on the type of crops, is responsible for all aspects of production and has to carry the risk of losses."

At the beginning, the HRS was restricted to poor and remote places (IFAD, 1995). Later on, however, after the formal implementation in 1978, the HRS quickly spread over the country, and agricultural production increased rapidly. At present, the HRS has already gone through the first and second round of the contract period. The first round was finished between 1978 and 1983, the contract period being 15 years. By the end of 1983, over 97 percent of the collective teams had been converted to the new system (Lin, 1991).

During the first contract period, the government put great effort into supporting the villagers to successfully implement the HRS. After fulfilling a state grain procurement quota obligation and making certain contributions to collective funds, the household could retain the rest of its production. These reforms resulted in an unprecedented success in agricultural production (Lin, 1991: 358). Christiansen (1990: 47-48) summarizes this as follows: "The stipulation in Document 1 (1983) [2] urging the peasants to market their above-quota products through 'many channels' […] was a complete blow to collective control with land ownership […]; however, they [the peasants] were still responsible for the major part of the agricultural output claimed by the state in fixed quotas, acting as general contractors for the commune members. The relatively short contracting period of three to five years was even expanded to 'more than fifteen years' in Document 1 (1984) [...] In Document 1 (1985) the role of the collectives in trade was

[2] Every year, Document 1 is the first Chinese government document, stating the most important issues.

finally abolished: the peasants, even those growing grain or cotton for the quota, had become producers for the market, signing contracts directly with the trade organizations."

In order to encourage households to manage the land sustainably, in 1993, the government lengthened the land contract period to 30 years and started the second round. The contracted land should not be redistributed, even if the household membership changed within this contracted period. In 1997, the central government issued the "*Announcement about the further stabilization and improvement of the rural land contract system*". This announcement stated that the contract period is 30 years. The contracted land should not be redistributed completely; only small changes are allowed, based on the former contract. It also indicated that it is legal for the households to subrent the land for others to cultivate. The second round of land contracting formally applies from 1997 onwards. Some provinces redistributed the land on a small scale; many provinces did not do anything and only changed the contract period from 15 years to 30 years. In 2002, in order to stabilize the system, the Chinese Rural Land Responsibility Law was issued. It stipulated that the contract period was lengthened to 30 years, and that only small changes were allowed. The law allows subrenting and stipulates that, in contracting the land, women should have the same rights as men.

The implementation entailed many changes for the rural population. Agricultural production increased (Christiansen, 1990; Lin, 1991), which could be attributed to an increase in inputs, technological change and institutional reform (Fan 1991: 266). At the beginning, rural household labour was allocated completely to agricultural production. The household management system has advantages of its own and is considered suitable for China (Lin, 1992). The income of the farming households increased a lot after the HRS, because the households could gain more if they produced more. This also motivates the farmers to use new technologies (Guan, 1987; Lin, 1991; Lin, 1992). Diversified income activities became possible because rural industries took off (Mallee, 1997). Many changes occurred, while some new issues emerged, too. These will be discussed below.

2.2.2 Household structure and composition change

The HRS led to complex changes in household structure and composition. The rural family is moving away from the traditional family forms and resembles 'modern' family patterns found in urban areas and in Western society (Goldstein et al., 1997; Whyte, 1992). The proportion of nuclear households that only consist of parents and (an) unmarried child(ren) increased (Wang, 2003b). The average household size has declined from 4.23 in 1987 to 3.97 in 1990 (Goldstein et al., 1997). Vermeer (2006) notes a substantial reduction in average household size, from 4.4 in 1982 to 3.4 in 2004. At the same time, "Confucian traditions are still strong, and to the extent that they are incorporated into existing government policies, will to some extent countervail modernization trends" (Goldstein et al., 1997: 83).

The stem family household[3] remained important. The chance that newly married couples will reside with the husband's parents had remained stable or

[3] A stem family household consists of parent(s) and one married child with his/her family.

even risen before 1978 but decreased after 1978 (Lavely and Ren, 1992). Young married couples remained in a stem family household until they were able to accumulate sufficient resources to establish their own household (Kertzer, 1991). The numbers of single person households, stem family households, and complex or joint family households[4] were dropping because of rural socio-economic development (ACWF, 1991). However, Cohen (1992) argues that strong and enduring joint families have become associated with successful management of the family as an enterprise, so the joint family household might have the potential to provide important benefits for its members. Inside the household, the power relations are changing as well. For example, in joint families, young people have more power to make decisions than they had before (Lavely and Ren, 1992). Vermeer (2006: 134), citing Guojia Tongjiju (2005), concludes the following: "Between 1999 and 2004, the proportion of households with two generations dropped from 62 to 56 percent of all households, and those with three generations from 19 to 17 percent. Single person households (mostly widows) rose from six to eight percent."

The functioning of the household also influences the family structure. Vermeer (2006) says that since households diversify their income, family ties have loosened. Care for the elderly is usually the rural household's main concern because there is no governmental security system. As the single child generation matures and becomes responsible for elderly parents, this generation has no siblings to share the burden. Multi-generation households may then again become common. Their proliferation would be consistent with the traditional ideal of an extended family household. Such familial arrangements may seriously impede the mobility of the younger generation and the status of younger women in the household. "The organization of families and households has significant implications for the distribution of income, especially for the relative position of the elderly", say (Benjamin and Brandt, 1999: 295).

The relationship between economy and family structure is also a point of debate. In classical China, extended families were largely found among middle class farmers, well-to-do farmers, and landlords, but not among poor peasants and farm labourers. These extended families could gain additional income by hiring out labour and had more security because of their flexibility (Wolf, 1966). According to Huang (1992), collectivization and economic changes have had minimal effects on the extended family. She discusses certain socio-political factors that appear to be relevant to the development of the ideal extended family. Under the relatively stagnant collective system, which one would have expected to be unfavourable to the extended family, the extended family prevailed. When the village economy began to diversify in the early 1980s, a condition obviously conducive to the extended family, the extended family system dissipated. Thus, collectivization had a limited impact on household patterns. Short and Zhai (1996) argue that larger households help to diversify economic activities and use newly emerging opportunities. At the same time, household splitting is increasing, with households becoming smaller as a result. Disagreements about household resources allocation is one factor which influences household division (Wang, 2000).

[4] A complex or joint family household includes at least two families.

Household headship[5] is changing. According to Goldstein et al. (1997) headship patterns change because men are more likely to be migrants than women, leading to more female household heads. Even in rural areas, among more educated couples some women remained head of the household even after their spouse returned. According to IFAD (1995: 26), migration leaves more *de facto* female-headed households. Female heads of household often suffer from the disadvantage of being relatively poor and having a workload heavier than that of men. Including single, divorced, widowed, and deserted women, the percentage in China is an estimated 13 percent.

2.2.3 Household livelihood change and differentiation

Household changes lead to changes in livelihood strategies. The livelihood portfolio becomes diversified to include, besides farming, both off-farming and non-farming activities. Agricultural production may become a sideline activity and income from agricultural production is decreasing. For rural households, agricultural production is a form of household security. Land is of central importance, in spite of the limited profitability of the small pieces of land per household, because of the role of land as a provider of security. Sometimes, in fact, the household cannot benefit from agriculture at all and has to find inputs from off-farm income. IFAD (1995) found that the average household land holding was 11.5 mu (0.74 hectare) in 1988. Mallee (1997) states that plots that are larger than the village average do have a positive (if small) effect on household incomes. Yet, households with more migrants usually are better off than households that rely only on their contracted land for their livelihoods. Therefore, landlessness does not necessarily equal chronic poverty (Murphy, 2000b).

Household landholding is changing as well, the reasons including household splitting, land transfers, and abandonment. Landholdings will have to be consolidated, or valuable land will lie fallow because of migration (Goldstein, 1988; Davis and Harrell, 1993). Benjamin and Brandt (1999: 294) think that "transferring land from richer households that are more actively engaged in off-farm work to households with few off- farm opportunities could improve both efficiency and equity."

After the implementation of the HRS and the opening of markets in the early 1980s, the farmers were no longer a homogeneous group; some got richer more quickly than others (Song, 1998; Zhou, 2002). The differentiating factors can be income, political power, and social status. The Gini[6] index in rural areas increased from 0.21 in 1978 to 0.32 in 1994 (Hu, 2005). Occupational differentiation is not very visible because some off-farm villagers who work elsewhere still keep their rural identity and hold land use rights (Zhou, 2002). Villagers usually have no other skills than those relating to agricultural production (Zhang, 2005). Yan (1992) states that local village leaders lost their authority and power after the HRS was

[5] Household headship indicates the person who manages and makes decisions in the household.

[6] The Gini index is commonly used as a measure of inequality of income or wealth. It is defined as a ratio and can range from 0 to 1 (0% to 100%): A low Gini coefficient indicates a more equal income or wealth distribution.

introduced, while some ordinary farmers became better-off, both economically and socially. Hence, current rural social stratification is characterized by both bureaucratic and economic ranking. The composition of rich households looks rather like a mixture of capable individuals from all social groups. To some extent, differentiation is good for development, but a high differentiation may lead to social problems. Inequality is increasing at both the regional level and local level. The farmers' income disparity increases among different regions in China. The income of households in Guizhou was almost half of that in Beijing in 1978, but was equal to one third of that in Beijing in 2002 (Feng, 2004). Fan (2003) also states that economic goals were the top priority during the transitional period and the farming households were left almost completely to take responsibility for their own survival, which increased their vulnerability. There are many factors that influence economic differentiation:

Assets and resources. The economic position of a household is determined not only by its current income, but also by accumulated family assets (Yan, 1992). Men and women born more recently have had significantly more education. The elderly tend to become the poorest because of their relatively low education (Benjamin and Brandt, 1999). Families relying on an increasing proportion of off-farm wages for their livelihood could obtain a better economic status and secure their position through strategic intermarriage (Christiansen, 1990).

Household structure, composition, and available labour. Households with more available labour can allocate part of their labour to off-farm and non-farm income-earning activities. Christiansen (1990) states that the families' economic success depends on their internal structures and available labour opportunities. More migrants will strengthen the family income (Murphy, 2000). Non-farm employment returns are major determinants of income inequality (Benjamin and Brandt, 1999).

The social network. Subsistence farming households seem to be caught in a vicious circle of relative impoverishment because they are unable to establish useful social connections (*guanxi)* through marriage, and – as a consequence – are in a subordinate position that is difficult to change. Christiansen (1990) also states that a household's income depends on its relative status within the community.

2.2.4 Change related to gender roles

Since more villagers migrate to earn cash to supplement the household income, the members left behind are mostly the aged, women and children. The women have to take on most of the agricultural production activities, besides their traditional household chores. At the same time, women's entitlement to land is problematic. At the beginning, the land was evenly distributed among all members of the farming household. Now, both household membership and size are changing and the number of households is increasing, because large households are divided into small nuclear households. Accordingly, the land has to be divided into smaller plots per household. When household members move out, the per capita land in that household increases. Because the land cannot be redistributed and only men

can inherit from their parents, newly married women have no chance of obtaining land.

The implementation of the HRS and the shift from commune- to household-based farming, with increasing numbers of men seeking employment away from the farm and leaving agricultural tasks to their wives, resulted in the feminization of agriculture. Zuo (2004:510) refers to this as "one of the most remarkable changes in the Chinese market transition". According to IFAD (1995) the HRS, in combination with the 1985 reforms in pricing and marketing of agricultural and rural products, has had a significant impact on rural women. Through the diversification of occupational opportunities, extending from crop planting to livestock raising, specialized production, knitting, weaving, non-farm enterprise development, et cetera, women's participation in this development has widened. More women became engaged in income-generating activities after the reform, and women's role as major producers and income earners has been increasing (Guan, 1987). In more industrialized areas, the majority of rural women consider remunerated work as a main occupation for women to improve their living standard and win genuine equality. In underdeveloped rural areas, women allow their husbands to concentrate on paid work and leave the housework to them (ACWF, 1991). Christiansen (1990: 110) mentions that, in theory, women have the potential to become the main earners of a family, which would improve their status. However, in practice, this potential is hardly realized. The husbands pursue migrant work and the wives stay in the village, which does not improve women's position in the countryside when their engagement in agriculture does not generate much economic value beyond the subsistence level (Chen, 1996; Fan, 2003; Zuo, 2004).

Guan (1987) points to the changes in women's status in the family; the change of rural women's status in society; and the ideological change among rural women themselves after the implementation of the HRS. The younger generation has more education, but according to the All-China Women's Federation (ACWF, (1991: 183), the trend of schooling for young women is declining. The reasons are that the adults are busy and ask the young girls to help with the housework. They expect children, especially daughters, to engage in income-generating activities. The parents think that work on the farm and in the enterprise is mainly done by hand, and does not need many skills.

According to IFAD (1995), rural men put in longer hours in market work, while women do so in non-market work. At the same time, however, economic opportunities are increasing, also for women. "Diversification in agriculture has opened up new opportunities, as has the fact that more and more rural women are engaging in non-agricultural work, a diversification that also broadens the scope for off-farm enterprises. Increased access to and control over land, increased access to education and technical training, policies and practices that grant equality to women and the growing recognition among both men and women, especially the younger generations, of the vital productive role women do and can play are but some of the forces at work" (IFAD, 1995:40).

Although some reports (ACWF, 1991; IFAD, 1995) observe that, at least at that time, young husbands were doing more housework than in the past, Vermeer (2006) argues that some traits of the traditional family were revived, too,

particularly the division of labour between household members. Chen (1996) found that the women make more decisions on agricultural production when their husbands are not around. Yet, (Entwisle et al. (1995) argue that even if women do more after the introduction of the HRS and other economic reforms, it did little to increase their decision-making power.

2.3 Transition to a market economy

In 1978, China started to move from a planned economy to a market economy. In the planned economy, the government controlled agricultural production. It provided all agricultural production materials, such as fertilizers, seeds, pesticide, and agricultural machines. The rural households had no autonomy to manage agricultural production. Now, the rural households have to manage their own agricultural production and they have to buy all the materials they need in the market. The government does not fix the prices of agricultural production materials anymore. Companies emerge that sell seeds, fertilizer and other agricultural materials, run by either the government or the private sector. The government has some privileges to protect agricultural production, but its role is decreasing. The villagers were stimulated to do business in the urban areas and prices became market-oriented. The agricultural production structure is changing and the products are more diversified. At the same time, the input of the government in the agricultural infrastructure, such as irrigation systems, is decreasing (Xu et al., 2008). The government is promoting high-yielding crops and is trying to improve agricultural production efficiency. Villagers' adoption of hybrid rice is mainly for making profit (Lin, 1991). Cash crop production and animal husbandry are also much promoted by the government.

Due to the liberalization of the market in 1978, an increasing number of private and small enterprises emerged. These enterprises need many labourers. A large number of villagers migrate to these enterprises to earn a better income than in rural areas. Especially the younger generation increasingly migrates to earn wages, while the elderly, women, and children are left at home. Governments in poor places promote migration because it is recognized that migration is an effective way to increase rural people's cash income, reducing pressure on local governments to alleviate poverty. These local governments support migration by providing information and training as well. Ultimately, geographical and occupational mobility are increasing (Chen, 1996).

2.4 Migration

In China, the mobility of rural households and household members is growing. It consists of both permanent and non-permanent migration. Mallee (1997) uses two concepts of mobility: migration and circulation. He also uses the concept of community and says that migration involves a permanent move from one community to another. Circulation implies an ultimate return to the place where the move started; as such, it is temporary and multidirectional. Circulation includes commuting, seasonal migration, and more long-term forms. Migration is a

household strategy and not just an individual choice. According to Mallee (1997), an individual moves in the interest of himself and the welfare of the household; the decision is made by the individual and the household head, while other household members may join in the decision-making.

Migration influences rural farming life, through its impacts on the division of labour in the farming household (Mallee, 1997; Vermeer, 2006). Murphy (2002: 25) says that "diversified households pursuing flexible migration strategies are a permanent part of a changing countryside. The concept of rural livelihood diversification is compatible with the insights derived from understanding rural petty commodity households as resilient, adaptable, innovative, and endowed with resources – rather than as transitional, backward, traditional, and devoid of resources." The motivations and situation of migrants are discussed below.

2.4.1 Reasons for migration

There may be different reasons for migration at the levels of the individual, the household, the community, the region and at the national level. Murphy (2002) and Fan (2003) see migration as mainly motivated by economic goals. Murphy (2002:21) states, however, that "migration strategies are not simply opportunistic and immediate responses to push and pull stimuli; they are also the products of values and life goals inculcated through longer-term socialization and life experiences." Migration occurs because of the shortage of farmland, the abundance of household labour (Zhao, 1999) and free markets for commodities (Christiansen, 1990).

At the same time, some people migrate back. According to Murphy (2002), a push-pull perspective can explain return migration. 'Push' factors would include job insecurity, poor living conditions, social discrimination, and legal restrictions in urban areas. The household registration system (*hukou*), for example, restricted freedom of movement from rural to urban areas (Fang, 2000). Successful entrepreneurs who benefitted from migration are a main 'pull' factor. Murphy (2000) also found that seasonal migration of only one family member cannot lift the household income; at least two members are needed to make a difference. Mallee (1997) observes that the villagers have a preference for circular migration and returning home regularly, which reinforces the links of migrants with their rural homes.

Rural labour migrants are likely to be male, young, and single, and migration depends on a household's composition and life cycle. During the younger stages in the household's life course, little mobility is found, but from the moment the wife turns 40, there is a steep increase (Mallee, 1997).

2.4.2 Impacts of migration

Migration can have many impacts on the household and household livelihood. According to Murphy (2000:982), migration "is not a substitute for improving local opportunities for income diversification and providing social welfare support." It also will generate impacts on gender roles, agricultural production, rural life, and so on. Davin (1998) states that because migration generates more money, it leads to higher levels of material consumption. The younger generation is attracted by the

promise of higher cash incomes and they are the potential to migrants (Lou et al., 2004).

From a gender perspective, Mallee (1997: 213) notes that "men are more likely to engage in labour mobility because this will raise their status compared to women". As a result, a large number of women have become head of their household. Women have also been provided with some opportunities to replace men in village positions. This situation may be viewed partly as advantageous to women, in terms of enhanced rural opportunities, although it may be at the cost of a disrupted family life (Judd, 1990). Given that migration leads to agricultural feminization, the question is whether this has negative impacts on women, their families and agricultural productivity (De Brauw et al., 2006).

2.4.3 The significance of the social network

Social network resources are very important for farming households to improve their livelihood. The social network, called *guanxi* in classical Chinese society, is the personal or group relationship and network. *Guanxi* may be established by different relationships, for example those among kin and neighbours, or through marital alliance (Christiansen, 1990). People get more benefits if they have more *guanxi* resources and they can use these resources well. *Guanxi* is regarded by the villagers as the social capital needed to reach their social and economic goals (Cai, 2005; Cai and Zhu, 2005). Households that receive remittances and also have family members with positions in local administration are among the richest households (Murphy, 2000). The main mechanisms for reducing the risks attached to migration are the traditional bonds of kinship and native place ties (Mallee, 1997).

2.5 Agricultural change

During the collective era before the HRS, China had established a top-down agricultural technology extension system. In the early HRS period in the 1980s the system proved to be successful in increasing the farmland productivity (Xia, 2009). The grain output grew by 4.8 percent per year ((Lin, 1989), and improved farming technology contributed to around 47 percent of overall productivity increments in China (Lin, 1992a). With only 8 percent of the global arable farmland, China could feed 21 percent of the global population.

Along with increasing of liberation of rural labour, freedom of rural economic activities, industrialization and seasonal and permanent migration from rural to urban areas, Chinese rural society transformed into a more dynamic and complex society in terms of economic and social development. Rural households became more diverse with regard to human capital, physical resources, natural resources and social capital.

After 1990, China experienced two periods of decline in grain production. The first one, in early the 1990s, gave rise to a global concern: who would feed China's population? The second one, in the early 2000s, resulted in severe inflation and increased social tensions because of the negative impacts on the low-income population of increased food prices. As a reflection of these agricultural setbacks, the agricultural technology extension system was blamed as an important

contributing factor, and reform of the system was made a priority. Even though no clear consensus was reached in terms of strategic orientation, institutional arrangements, and incentive policies, officials and academics realized that the top-down extension system needed reform to meet farmers' agricultural extension needs (Gao, 1995; He, 1993; Hu and Huang, 2001; Li and Yang, 2005; Lin, 1991; Xia, 2009). China's agricultural technological extension system faces many additional challenges, including heterogeneity of regions and households , and feminization of agriculture (Hu and Huang, 2001; Mallee, 1997; Song, 1998).

Agricultural production and technology adoption underwent many changes after the HRS was introduced. Mallee (1997) found that there is feminization in farm work, although this trend should not be exaggerated. Agriculture is not so important in areas with a lot of migrants. It became a weekend activity with little significance in the developed province of Jiangsu (Christiansen, 1990). At the same time, a high level of migration does not necessarily have a negative impact on agricultural production because the remittances can solve the problem of labour shortage. Murphy (2000) states that migration has implications for the distribution of income associated with land. Large households are able to combine the advantages of their labour potential and more land, so that more household members can migrate to earn wages. These households can also produce for the market and rent the land of the absentees.

In rural China, the farmer's adoption of technology is changing after the implementation of the HRS. People adopt agricultural technology mainly because of its high economic profitability. In the collective system farmers only obtained a small share of the marginal product of his additional effort, but since the HRS, they are the residual claimants, and thus obtain the full benefit of their efforts (Lin, 1991). Therefore, the incentive to adopt a new technology should be higher in the HRS than in the collective system. The HRS disrupted the traditional extension network because the farmers can adopt technologies according to their own choice. The diversity of circumstances of small farms and the variation in farming systems result in heterogeneous needs for technologies (Song, 1998). The agricultural technology extension, however, still employs the traditional approach of the planning system. As a result, it has been unable to meet the diversified needs very well. At the same time, the government's investment has decreased (Lin, 1991). The scope of the training programmes available in rural areas was limited, and they were not very relevant to women either (ACWF, 1991). The extension services organizations are trying to meet the diversified needs but still do not really manage to do so. Farming households are still regarded as homogeneous in agri-cultural production, by extension workers and in policies (Lin, 1991). When the government makes policies, they face difficulties in the implementation process because it neglects the social differentiation in rural areas (Hu, 2005). Conventional policies and research have often discounted the role of local people in the design and implementation of measures, projects and programmes, and are often blind to social differentiation (Vernooy, 2006). The institutional framework must change because the technological needs have changed (Fan, 1991).

2.6 Development in rural areas

Since the HRS, the Chinese government initiated many development plans and programmes for rural areas. From 1984 to 1988, there have been five "Documents No. 1" issued to promote rural development (see above). The urban-rural average household income ratios were 1.86, 3.10 and 3.33 in 1985, 2002 and 2007, respectively (CSB, 2008). Yet, between 1988 and 2004, rural development slowed and the rural-urban difference increased. From 2004 onwards, seven[7] more "Documents No. 1" were issued to emphasize and promote rural development, but the urban-rural average household income ratios were still very high. These seven "Documents No.1" issued in succession show that the government attaches a high priority to agriculture and rural development. The agricultural taxes were abolished, the agricultural products tax, the pasture tax, the agricultural land tax, and the slaughter tax included. The average tax decrease for farmers was 1335 *yuan* compared to the 1999 (XNA, 2008).

In 1999, the Chinese government began to implement the Western Region Development Programme. This region is the poorest in China. Twelve provinces, including Guizhou in western China, are included in this programme, which targets infrastructure construction and ecological and environmental development. The programme uses a multi-sectoral approach, involving the ministries of agriculture, forestry, education, health and sanitation, and many other ministries. The area for afforestation is approximately 0.28 billion *mu* (WRDPO, 2005). From 2001 onwards, the government began to give more support to rural students in primary and secondary schools; in 2007, it exempted these students from tuition fees and textbook fees.

From 2003 onwards, the central government started the Neo-rural Medical System, in which 72.6 percent of the villagers participated in 2004. The government gives subsidy for participation. The participants pay 40 *yuan* a year and get partial reimbursement of the costs of medical consults and medicines. The villagers had no medical support from the government from 1978 to 2003, although disease usually threw a rural better-off household back into poverty (WRDPO, 2005). In 2003, the government also promoted training for rural migrants and set up a special project – the Sunshine Training Project – to assist rural people to acquire some skills and knowledge before their migration. In 2004, there were 2.5 million trainees (SPONRMT, 2004). The results are not very good, either because much of the training is not really user-oriented, or because the training time is too short. From 2004, The Chinese government subsidized grain farming (Heerink et al., 2006; Gale et al., 2005), and allocated 12 billion and 15.6 billion *yuan* as subsidy to the grain-cultivating farming households in 2006 and 2007 respectively, to stimulate grain production and increase farming households' incomes (WRDPO, 2005).

[7] The Document 1 of 2010 was issued in Jan. 2010 when the researcher was finalizing the dissertation. This document is still focusing on agriculture and rural development. Small city and township development are given special attention in this document.

2.7 Family and household

2.7.1 The Chinese family and household

Sigley (2001) defines the Chinese family as at least having two members, related by blood and economic interdependence. Christiansen (1990) distinguishes four types of family: the one-couple family, the nuclear family, the joint family, and the extended family. Christiansen (1990:112) cites Fei (1982:35): "The most important classification of family structure in China used is based on blood relationship between family members: nuclear family (*hexin jiating*), joint family (*lianhe jiating*) and extended family (*kuoda liaode jiating*). The nuclear family consists of a husband, a wife and their unmarried children. The joint family consists of married children who live together with the parents, while the extended family signifies nuclear families plus other members who are unable to live alone, usually a widow or widower living with children after a spouse has died but sometimes more distant relatives or even unrelated persons". At the same time, Christiansen (1990) says that Fei (1982: 35) adds one type, namely the incomplete nuclear family, "in which one of the spouses has died or is otherwise absent, or in which unmarried orphans live together".

The crucial characteristic of a household is the fact that it shares a common budget and the members cook and eat together (Potter and Potter, 1990). This makes married children who already formally cook and eat separately kin and not household members. Wang (2003b) has categorized households into five types: complex households – siblings' families living together, the parent(s) staying with two married children's families; stem households – parent(s) staying with one married child's family; nuclear households – parent(s) with child(ren); incomplete households – unmarried siblings staying together because the parents passed away; and single person households.

The extended family can be seen as a place of security and wealth accumulation. Wolf (1966: 66-67) describes the Chinese extended family as follows: "While some members retain their hold on land, and keep the property together under one administration, others leave – seasonally or periodically – to add to its liquid capital holdings through the injection of outside funds. Such a unit also has great resistive capacity in periods of decline or economic difficulty […] the extended family can thus function as a device for social security far more flexibly than the smaller conjugal or nuclear family[8], which is weak because its viability depends upon the productive abilities of one member of each sex." Yet, in extended families, there is also more potential for conflict. Conflicts may arise between men and women, son and father, mother-in-law and daughter-in-law (Wolf, 1966). Wolf (1966) says that women are often regarded as outsiders. Sons, on the other hand, fight a silent struggle against their fathers, when the fathers cling to traditional ways while the sons look for new techniques and customs.

The traditional Chinese family has a patrilineal kinship system and a patrilocal residence pattern (Christiansen, 1990). The men are almost automatically household heads and inherit the property. The ideology in the family is that the

[8] The conjugal or nuclear family is the family that consists of a married man and woman with their offspring.

son embodies the family wealth and that the daughter is destined for others. Christiansen (1990) notes a relationship between family structure and the economic and social opportunities of families. Joint families may live together but have "separate stoves" (*fenzao*) and cook separately, which means they are separate households.

The words household and family are often used interchangeably, but they have different meanings. For China, Sigley (2001) points at the difference between *hu* (household) and *jiating* (family). Christiansen (1990) uses household (*hukou)* as the official registration, which does not necessarily imply that the members have a blood relationship, and family (*jiating*) as the blood relationship. Members of households may be living together or apart, either on a temporary basis or permanently. Migration of individual household members to a new place of residence without a change of their *hukou* registration implies that the official and more common conceptual notions of household diverge. Christiansen (1990:111) says that the terms "'household' and 'family' indicate different perspectives of the same phenomenon. 'Household' signifies a classification imposed by the outside world: whatever it is the government official in charge of the household registers, or the sociologist trying to conceptualize a social phenomenon sees. 'Family' signifies a special bond and blood relationship between people living together, in this sense it is seen from 'within'."

Chen (1996) describes the farming household as a contract unit for the allotment of land, in which a group of related people, usually a nuclear family, individually or jointly provide management, labour, capital, and any other necessary inputs for the production of crops and livestock, and which consumes at least part of the farm's produce and manages the agricultural production and consumption. She also says that farming household decision-making is influenced by the availability of resources. Christiansen (1990) observes that the introduction of the HRS gives more importance to property division and changes intergenerational conflict.

According to Christiansen (1990), the most palpable manifestation of rural-urban separation is the *hukou* registration system. The *hukou* system was set up in 1955 with the objective to monitor population migration. The *hukoubu* – a household registration book -, indicates clearly the 'agricultural' or 'urban' residence. Usually, each household has its own *hukoubu* that is registered at the local security station, which keeps the household registration list. The 'urban' residents have received a number of privileges from the government, such as housing and health care, while the rural ones have none. It is difficult for the Chinese farming households to change from a rural to an urban residence status. If the rural people work in the urban areas, they have to apply for a temporary residence permit, but they are not treated in the same way as the urban people in terms of housing, education, health, et cetera. Rural-urban migration is not easy. The *hukou* system is an important constraint for rural people to migrate to the urban areas to work. The rural migrants cannot get the same privileges. Even if they have worked and lived in the urban areas for a long time, their rural *hukou* cannot be changed to an urban *hukou*. They are regarded as outsiders, even when they contribute significantly to urban development. Since 2007, however, some

provinces have begun to abandon the difference between the rural and the urban *hukou*, giving all the residents the same type of *hukou*[9].

2.7.2 Kinship

The Chinese household is generally based on patrilineal kinship and patrilocal residence. The wife moves to her husband's village to live there after marriage and keeps a strong relationship with her husband's relatives. But Judd (1989) indicates that matrilineal kinship – *niangjia* - is also important. She found that some married women reside with their natal families, or that young married women return daily to their natal families when they live close to their natal village and in cases of intra-village marriage. These married women could take on more responsibilities by taking care of their own parents. According to her, women should not be seen as just victims of patriarchy but as agents in the everyday practice of kinship.

Mallee (1997) mentions the role of kinship in reducing risks associated with migration, through the provision of information, jobs, and assistance with housing. Christiansen (1990) found that taking care of the elderly is mainly done within the household or by relatives in rural areas, a phenomenon which forces both intergenerational cohesion and conflicts upon the households. It is usually the duty of the son's family to take care of the elderly. Vermeer (2006) points to the importance of grandparents in childcare and household chores while the parents are at work.

2.7.3 Headship

The farming household head is usually male, but the number of *de facto* female household heads is increasing. Cohen (1992) says that the terms of *de jure* head and *de facto* head could be translated as "family head" and "family manager", respectively. "The family head, as senior male, represents the family to the outside world, the financial manager is generally in charge of family economic affairs and the re-distributor is custodian of the family purse in arrangements where income and expenditure are pooled. However, the ideal situation is where the same person does both – where seniority and managerial competence coincide" (Cohen, 1992: 362-363). Cohen (1992) further notes that, in the past, the manager was mainly focusing on the division of labour in farming households, but that now, there are diversified sources of income for the manager to manage. IFAD (1995) indicates that the rural women, especially female household heads, adopt diversified strategies to survive and to deal with crisis.

Chen (1996) has categorized farming households in her research area in Sichuan province into five types, based on the management role of the household head: the male-managed farming household, the female-managed farming household, the mainly female-managed farming household, the mainly male-managed farming household, and the jointly managed farming household. This means that the picture of household management in rural China is far more nuanced than simple classifications into male or female headship imply.

[9] Document 1 of 2010 points out that the government will promote the rural villagers to become urban citizens by allowing easy *hukou* change in small cities and townships.

In rural China, most men are still the *de jure* household heads, but with increasing male out-migration, more women become *de facto* household heads in farming households. Some women remain the head even when the husband comes back, especially in the case of middle-aged wives and when the husband is well-educated. The middle-aged wives have developed strong networks and capacities when their husbands were absent and higher educated persons more easily accept the equality of sexes (Goldstein et al., 1997).

2.7.4 Division of labour

The availability of labour and the division of labour relate to the household life course and the life course stage of the individuals involved. Chen (2004) conducted research on the relationships between generations of women in contemporary rural China and discussed the division of labour of two generations in extended households and stem households. She found that the daughter-in-law is focusing more on income-generating activities, such as agricultural production, while the mother-in-law does household chores, like taking care of the children. The older generation is losing control and power. Judd (1990) has similar findings, mentioning that the younger generation has greater autonomy in making decisions about their work preference than they had in the past.

2.8 Gender issues in China

Chinese society has always been a patriarchal society where women are expected to follow men's decisions. Fan (2003: 28) states that "the Confucian prescriptions of social positions popularize the notion that women's place is inside the family whereas men are responsible for the outside including the earnings to support the family." At the same time, it is also important to examine the relationships of daughters-in-law and mothers-in-law to analyze the patriarchal society. As Chen (2004) observed, in this way we gain more understanding of the gender roles, because these relationships are shaped by gender roles. Many issues are implied by the patriarchal character of Chinese society.

2.8.1 Gender and land issues in China

Before the foundation of the People's Republic of China in 1949, land was patri-lineally inherited in traditional Chinese society. During the collective era, there was no private landownership. After that, the HRS offered equal opportunities for men and women to get land. According to IFAD (1995: 56), "it was with the institution of the HRS in the early 1980s that women began to become independent lease holders." Women have equal rights to land according to the law, but in practice, both title and control are often in de hands of men.

In the early stages of the implementation of the HRS, the gender issue in land rights was not obvious, but after several years gender issues emerged. Women began to lose their land because they got married, divorced, or became widowed. In these situations, their natal villages usually reclaimed their land, while obtaining land in their husbands' village was not easy either. More women lost land as time went by. In 1996, the number of women who lost land in two

provinces in the underdeveloped western part of China amounted to no more than ten percent. In 2001, twenty percent of the women had no land (RCRE, 2004). Sometimes, women's natal villages do not reclaim the land, yet women cannot benefit from the land because their natal villages are too far away, or their parents have allocated the land to other household members. Because of the traditional gender ideology, women themselves also think that it is shameful for them to own land in their natal villages if they are already married. Only six percent of the rural households agrees that a married woman can obtain land rights after her marriage (Zhang, 2002b). A married daughter is no longer seen as a member of her parents' family, but of her husband's family (Zhang, 2004). According to the data from twelve underdeveloped western provinces, 53.3 percent of women think that they should give up their claims to land in their natal villages after they get married (RTDI, 2006).

Chinese law about land is gender-sensitive, but the problem is that it is not well implemented. It conflicts with traditional culture. Li (2003:21) observes that "Chinese law, if not perfect, is gender-sensitive and often explicitly addresses gender issues. The major problem is one of a lack of mechanisms for enforcing those laws, and this, coupled with the existence of a culture of male dominance, has put Chinese women at a disadvantage as regards arable land use rights." According to the ACWF (2000), leadership at the local level often ignores women's complaints, and courts may refuse to accept their cases, thinking these are intra-familial matters, inappropriate for litigation.

2.8.2 Gender and household labour in China

Because of Confucian ideology, in China, agricultural production traditionally was men's domain, and women were not encouraged to work in the fields; they were just the men's assistants. The typical picture of rural life was that "men plough and cultivate, women weave" and that "men work outside and women work at home". Women mainly worked in home garden production and did household work. Things changed, however, after the foundation of the People's Republic of China in 1949. Chen (2004) argues that the major changes in the communist period were that women were promoted to do the same work as men in farming. Yet, the division of labour still is that men are chiefly responsible for income-generating activities and women are still dominating in domestic work. According to Bossen (2002), the gendered division of agricultural tasks has remained constant, but according to Judd (1990), the division of labour has become more complex since the HRS. Migration influences labour and the division of labour, because migrants mostly are men and young people. Female migrants mostly are young and single women (Fan, 2003). Older women are the major agricultural producers in the villages.

Decision-making on the division of labour focuses more on the interests of the family as a whole than on the interests of individual members. In addition, older generations have traditionally had decision-making authority over the allocation of labour. However, things now are changing. "Although a decision on the division of labour may benefit the whole family, it may not benefit particular individuals, since some jobs are more desirable than others. Thus, the final decision may be the balance between an adaptive strategy and a bargaining process about power, reflecting both differences in individual resources and household

dynamics" (Chen, 2004: 568-569). Older women are complaining about their loss of power and lower status compared to the past. At the same time, for younger women, engaging in paid work does not necessarily mean a reduction of household chores. The daughters-in-law are still responsible for domestic tasks; their roles have grown bigger (Chen, 2004). The complex of the division of labour is influenced by many factors:

Age. The age gap influences power relations. Older people usually have more power in the family. Yet, the older and younger need to cooperate with each other more than in the past. The work activities of daughters-in-law and mothers-in-law are not independent, rather complementary (Chen, 2004). The division of labour between the generations of women is a type of family strategy, as well as a result of power dynamics within the household. The intergenerational division of labour responds to family needs, such as childcare demands, with the mother-in-law more likely to adjust her work activities than the daughter-in-law. Hence, there is an intricate relationship between the change in the power relationship between daughters-in-law and mothers-in-law on the one hand, and changes in the division of labour between the generations on the other.

Economic and environmental factors. Economic and other environmental factors can influence the division of labour. Li (2005c) has found that the socio-economic status of the household is positively associated with the sharing of housework among men and women. The local economic conditions may have strong implications for people's work activities and, hence, for the division of labour within the household (Chen, 2004). Electricity, for example, can save labour in cooking (ACWF, 1991).

The household structure. Li (2005c) has found that more members share women's housework in extended family households than in nuclear family households and that women do less in extended family households.

Attitude and knowledge of agricultural production. The ACWF (1991) has found that women working in off-farm work are considered to be better than women in farm work, because they generate more income and have more opportunities for social contact. The report mentions, on the other hand, that women are satisfied with farm work because it gives them more freedom to combine it with housework, while the farm income is also increasing. "However, there were variations in the attitudes of the women in the different age-cohorts. Many in the oldest cohort felt rather alienated because they were old and semi-literate and no longer able to change their occupations. In the middle group, women whose husbands earned a higher income in non-agricultural work preferred to do the farm work so they could take care of the house and the children at the same time. Young women also thought that doing farm work made it easy for them to look after their babies, and so they were satisfied with it" (ACWF, 1991).

Education. Chen (2004) points to the importance of education as a determining factor in the division of labour. The difference in educational levels between the

generations is striking in China. Mothers-in-law with a low education are less likely to work outside. A more educated daughter-in-law may have a wage job, while the mother-in-law may engage in agricultural activities such as gardening or animal husbandry, which are considered less important than staple food production. Or it could be that the daughter-in-law does agricultural work, while the mother-in-law stays at home and is mainly responsible for domestic production and housework (Chen, 2004). Li, (2005c: 248) says that "on the one hand, female literacy has an important influence on rural women's decision-making power, the division of labour within the household, and their exposure to the broader society; on the other hand, female literacy is not significantly associated with autonomy, suggesting that female literacy is not a panacea measure for women's status."

Social resources. Individual social resources influence the division of labour in the household and in society at large. Chen (2004) indicates that when the daughter-in-law's natal family lives close by, her power in the household seems to increase and working arrangements tend to favour the daughter-in-law. Fan (2003: 38-39) has found that "the social network reinforces the sorting mechanism that matches employers with workers, and further deepens segmentation and gender segregation of work when new migrants replicate the work of earlier migrants."

2.9 Summary and conclusion

Rural Chinese households have gone through many changes since the implementation of the HRS. Rural households are increasingly based on nuclear families, the number of single person households is increasing and that of extended family households is decreasing, but for stem households the trend is less clear. The number of migrants is increasing, and seasonal circulation is very popular. Because of this, household members do not always live and eat together on a daily basis. At the same time, migrants still try to link to their rural household in many ways. They send remittances, and help other family members migrate. These processes cause changes in the relationships between the generations, particularly visible in the relationship between daughters-in-law and mothers-in-law, leading to the older generation losing their power and the younger generation gaining autonomy.

In the collective era, farming households made their living by cultivating collective land, with the farming arrangement being controlled by the collective leadership. The government was completely responsible for technology extension and adopted top-down extension services. Since the HRS, the household has acquired land use rights, even though the household landholding is small. Now, landholding is also changing because households split up and household members migrate. Some households rent the land out and others rent in. Some lands lie fallow because of labour shortages. Livelihood diversification, including off-farming and non-farming activities, reduces agricultural production to a sideline activity that yields a low income. In general, rural households increasingly consider agricultural production a form of household security that is not necessarily profitable. When young people migrate, the older people may have to

abandon the land because of a labour shortage. The rural household needs more support from kin and family members when household members migrate to make a living. They need their help to take care of children and the elderly, and to provide employment information in order to reduce the risks attached to migration. Rural households now gain knowledge about new technologies in different ways and through different channels, while the role of the government in technology extension is decreasing.

Chinese society is patrilineal and patrilocal. After the implementation of the HRS, the man has remained the head of the household head and the property is still inherited by the sons, even though, by law, land is also allocated to daughters. More *de facto* female household heads are emerging and they have more decision-making opportunities. More women continue to act as the head even when the husband comes back. Since the HRS, gender roles are changing and the strict division of labour has changed as well. However, some researchers have found that the division of labour is still quite strict. Women's economic and social status is increasing, although this does not apply in some poor regions. Women are left at home and their health is damaged because of their large workload. They take on the men's tasks in addition to their own, traditional tasks. With the HRS, the problem of women's access to land did not disappear, because the number of women who cannot get land is increasing, even though the law gives women the right to land for cultivation. Household headship changes provide women with an opportunity to make decisions on agricultural production and to attend community activities, but some men still have doubts about women's capabilities regarding the management of agricultural production. Women continue in their traditional roles while taking on men's tasks at the same time. Their workload is increasing. When men migrate, their status in the family improves because their work is regarded as better for providing cash income for the household. At the same time, migration also provides women with opportunities to earn money, which increases their decision-making power.

Since the implementation of the HRS, socio-economic stratification is becoming more pronounced. At the beginning of the HRS, socio-economic differences were small, but now the gaps are widening. There is an increasing differentiation in both economic and political power. Village leaders are not as powerful as before. Inequality in terms of income is clearly increasing, while occupational differentiation is not very visible because people keep their rural identity. During the past 30 years, the government has put a lot of effort into agricultural production and rural development, which contributes to the levelling off of income differences.

Chapter 3
Literature review and conceptual framework

This chapter discusses the key concepts in the study, namely household, gender, livelihood, and social differentiation. The last section presents the conceptual framework, the research objectives, and research questions. In the framework, the household is used as the unit of analysis.

3.1 Household, family, kinship and headship

3.1.1 Household

The concept of household is somewhat controversial and has been defined in various ways. Rudie (1995: 228) defines it as "co-residential units, usually family-based in some way, which take care of resource management and primary needs of its members." Clay and Schwartzweller (1991: 11) say that "households are one of the basic units of human social organization. To a large extent, they represent the arena of everyday life for the vast majority of the world's people." Pennartz and Niehof (1999: 3) define the household as: "A social unit that effectively over long periods of time enables individuals, of varying ages and of both sexes, to pool income coming from multiple sources in order to ensure their individual and collective reproduction and well-being." They regard household as a consumptive unit and a production unit.

The household is an arena of cooperation as well as conflict (Sen, 1990). Gender is a critical concept in analyzing households. Men and women have different roles, both in society and in the household. The household is internally complex and provides the context for diverse activities. "So it must be disaggregated: hence the different roles and activities of individuals (men; women; natural and adopted children) must be considered" (Hussein and Nelson, 1998:23). Men and women in the household have unequal positions, especially with regard to the distribution of resources within the household resource distribution (Quisumbing, 2003; Sen, 1990). Pennartz and Niehof (1999) see the household as mediating between individual and society, because the individual is an actor in the political and economic system and – at the same time – is a member of a family household, contributing to its productive and reproductive functions. Zimmerer (2004: 803) considers "the household's management of resources and property as highly diverse and constituted in contingent and often fluid ways with respect to power relations both within the unit and in relation to outside social actors and institutions."

The allocation of time among members within the household is much diversified and depends on many factors, e.g. its composition, life course, resources, and power; "The allocation and use of resources for the household involve social mechanisms, e.g. the division of labour and decision-making"

(Niehof, 1998: 44). The intra-household division of labour depends on its composition (Pennartz and Niehof 1999). Verma (2001) points to the fact that children in poor households sometimes have to sell their labour to make a financial contribution to their school fees and household expenses.

In the rural setting, households are mainly farming households. Both reproductive and productive activities take place in the domestic sphere of the household (Clay and Schwarzweller, 1991). Farming households function in a specific economic, ecological, cultural and political environment (Niehof, 1998). Niehof and Price (2001: 9) see a farming household system as consisting three subsystems: "family, farm and household". For Roquas (2002) a farming household is a household that has at least one member involved in agricultural production.

The household as a collective has its own life course, and the individual household members have their own life course as well (Pennartz and Niehof, 1999). Wolf (1984) mentions that the household family cycle and the individual life cycle are definitely related, although the relationship is sometimes weak. The household's economic situation, household members' roles and power are changing at different stages of the household's life course and according to the phase in the life course of the individual members concerned. (Agarwal 1994a: 106) has pointed to the relative power of older women compared to the younger ones. Ellis (2000) states that the level of farm output is determined by the phase in the farm family cycle, as he calls it.

A household can also be regarded as having agency, which is reflected in household strategies (Pennartz and Niehof 1999; Wallace, 2002). Niehof (2001) points out that, within the household context both joint strategies and strategies of individual members can be found. Household strategies and individual members' strategies may be similar, but may at times also be different. However, when members only pursue individual strategies and do not cooperate, thereby disturbing the balance between conflict and cooperation (Sen, 1990), the household will fall apart or individual members will move out.

The household is dynamic. Its composition, boundaries, resources, and strategies are subject to change. Household boundaries are permeable, with support relations extending to beyond the household (Rudie, 1995). The latter is the case, for example, when migrated household members send remittances to support the household, or when the household supports children studying elsewhere. Household level analysis is important in human-environmental analysis, with regard to, for instance, agricultural intensification and extensification (Zimmerer, 2004). In this research, the farming household is defined as a unit in which a group of people related by kinship and/or marriage, usually a nuclear family, individually as well as jointly use resources for producing their livelihood. For farming households, land is one of the main resources for generating a livelihood. Hence, the way in which the land was allocated to households at the implementation of the Household Responsibility System in China, was a crucial factor for the livelihoods of the households concerned.

The concept of household is different from that of family, though the two are often used interchangeably. In the following section, I will discuss the concept of family.

3.1.2 Family

The concepts of family and household are often used interchangeably, yet they are different. According to Allan and Crow (2001), family is more about the relationship of marriage and blood-linked relations, whereas households are units that can be both family-based and non-family-based. A focus on family centers on solidarity and conflict between people who are linked through kinship. A focus on households emphasizes a different set of concerns, such as the division of responsibility and workload, the strategies the households have, and the resources the members use. Household types have increasingly diversified, along with the global economic change (Allan and Crow, 2001).

Households may not be visible entities in terms of buildings or sets of rooms within residential units, but they can be identified in terms of specific functions, such as cooking or the pooling of finances. There are family households and non-family or institutional households (boarding schools, homes for the elderly). Niehof (1985) has found in her research in Madura, Indonesia, that extended families that share a compound or even a house, do not necessarily share a kitchen space, or if they do, they do not necessarily cook together.

3.1.3 Kinship

Households are not closed units but are embedded in kinship networks and neighbourhoods. Niehof (2003) discusses the relationship between kinship and household as follows: kinship patterns influence household formation and composition. Kinship positions determine one's access to resources and the division of labour. Kinship is important for care giving, both within households and beyond.

Kinship is regarded as an important resource with a biological base, while kinship relations and networks function as a support system in livelihood generation (Niehof and Price, 2001). Family obligations extend to wider kin (Allan and Crow, 2001). Extra-household kinship relationships influence the economic fate of women more than that of men, and that of female-headed households more than that of male-headed households, because kinship members take care of the children and send money to these female-headed households (Bruce and Lloyd, 1995). The closer the kinship relation is, the greater the obligations are (Harris, 1999).

Kinship relations involve exchange, but this does not necessarily mean equivalent exchange (Harris, 1999). The agricultural producer cannot automatically rely on free labour by other household members because of their mutual kinship bond (Roquas, 2002).

3.1.4 Headship

The head of the farming household is usually a man. The household head is important in managing the household. The head usually has more power than the other members of the household. Female and male household heads manage the household differently. A head may allocate resources from the common fund to household members differentially, according to the position they occupy in terms of age and sex (Kabeer, 1991). Female-headed households usually imply the

absence of adult men, while in male-headed households usually one or more adult women are present (Bruce and Lloyd, 1995). Ellis (2000) mentions that households suffer labour shortages without an adult male. According to Gottschalk (2001), the rise in poverty rates during the economic growth period in 1973-1994 in the United States was partially caused by an increase of female-headed households. The household head can be *de jure* head and (or) *de facto* head.

In her study conducted in Yaan, Southwest China, Chen (1996) has categorized farming households into five types, based on the management position of the household head: the male-managed farming household, the female-managed farming household, the mainly female-managed farming household, the mainly male-managed farming household, and the jointly managed farming household. Cohen (1992) says that, in China, the terms of *de jure* head and *de facto* head could be translated as "family head" and "family manager", respectively. "The family head, as senior male, represents the family to the outside world, while the financial manager is generally in charge of family economic affairs, and the re-distributor is custodian of the family purse in arrangements where income and expenditure are pooled. However, the ideal situation is where the same person does both – where seniority and managerial competence coincide" (Cohen, 1992: 362-363).

The number of *de facto* female household heads is increasing. In rural China, most men are still the *de jure* household heads, but with more men migrating, women increasingly become *de facto* heads of farming households. Some women remain the head even when the husband comes back, especially in the case of middle-aged wives and when the husband is well educated. The middle-aged wives have developed strong networks and capacities when their husbands were absent, and higher-educated men more easily accept the equality of the sexes (Goldstein et al., 1997). Cohen (1992) notes that, in the past, the household head (manager) was mainly concerned with the division of labour in farming, but that now, there are diversified sources of income for the manager to manage. Female household heads adopt diversified strategies to survive and to deal with crises in China (IFAD, 1995).

3.2 Livelihood and migration

3.2.1 Livelihood

Livelihood comprises the capabilities, assets and activities required for a means of living (Chambers and Conway, 1992). Ellis (2000:10) defines livelihood as follows: "A livelihood comprises the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household." Livelihood is about the means of living and includes what people do and what they achieve by making a living (Van Tilburg, 2001). Assets, access and activities are very important elements that interact with each other in generating livelihood (Ellis 2000). In reality, it is not easy to separate the assets and resources for making a living from those needed for domestic production. As Niehof and

Price (2001: 20) say: "A subsistence farmer cannot separate the assets and resources needed for farming from those needed for maintaining the household."

Niehof and Price (2001) look at livelihood as an open system, interacting with other systems, and using various resources and assets to produce a livelihood, with the household as the locus of the livelihood generation. They conceptualize livelihood as having the following components:

- *Inputs: resources and assets.*
- *Output: livelihood.*
- *Purpose: livelihood adequacy for meeting basic needs (Chambers, 1989).*
- *Activities: livelihood generation and the composition of the livelihood portfolio.*
- *Agency: efforts of households and individuals to achieve livelihood adequacy.*
- *Quality: degree of vulnerability (or sustainability) of the livelihood produced.*
- *Environment: context within which the livelihood system functions interface with other systems and institutions.*
- *Locus: the household as the locus of livelihood generation* (Niehof, 2004:322).

Livelihoods are not static; they are subject to change (Francis, 2000). Ellis (2000) has found that many rural households within South Africa lost their main source of livelihood and had to return to a mix of activities: small-scale farming, agricultural work, petty trading, even though none of these was very remunerative. Francis (2000) also states that a change in livelihood resources will raise new issues in rural households, such as the division of labour.

Land is an important natural asset at the environmental level for rural livelihood systems and access to land is very critical for livelihoods of rural households (Bebbington, 1999). Price (1998) mentions the fact that land reform in Vietnam led to rich farming households accumulating more land and becoming richer. Ali (2005) did research in Bangladesh and found that the villagers tried to accumulate land when they had money. Access to land is also determined by gender (Niehof and Price, 2001).

For making a living, one needs income. Ellis (2000) has categorized villagers' income into three types: farm income, referring to income generated from own-account farming, whether on owner-occupied land, or on land accessed through cash or shared tenancy; off-farm income, referring to wage or exchange labour on other farms; and non-farm income, referring to non-agricultural income sources.

Subsistence farmers are sensitive to risks. Scott (1976) in his famous study, concluded that peasants try to distribute the risks and stabilize their livelihood. Quisumbing (2003) mentions the importance of social networks for women in helping them to mitigate the impact of adverse shocks. Ellis (2000) mentions that the achievement of increasing productivity in small-farm agriculture is the central orientation in rural development from the 1970s onward. For a better understanding of the livelihood system, we need to discuss livelihood strategies, livelihood diversification, and sustainable livelihood.

In this research, I will look at livelihood as a system. Resources are needed for livelihood generation and household is the locus for generating the livelihood

(see conceptual framework in this chapter). I also will give attention to households' land use for on-farm livelihood activities.

Livelihood portfolio and strategies

The livelihood portfolio is the bundle of activities households engage in to generate a livelihood and achieve a certain level of livelihood security (Niehof, 2004). Both households and the individuals within them undertake their livelihood strategies for survival. However, these strategies can change, based on the household's and individuals' life course, as Ali (2005) documented for Bangladesh.

Scoones (1998) distinguishes several kinds of livelihood strategies: agri-cultural intensification or extensification, livelihood diversification, and migration. Their analysis of livelihood strategies can be done at many levels: that of the individual, the household, the village, and at regional or national levels (Scoones, 1998). The livelihood activities of the household head are not the only determining factor for the livelihood status of households (Ali, 2005). As Hussein (1998:6) states: "Different livelihood strategies complement one another as rural producers make their way in what are often risky, resource-poor environments […] Migration and investment in agricultural intensification are often combined with a range of income diversification activities to form the basis of rural people's total livelihood strategies." Livelihood strategies are adapted to changing circumstances. Coping strategies are needed in some situations (Ellis, 2000). Niehof and Price (2001: 16) see coping strategies as "aimed at dealing with recurrent, hence foreseeable, situations of stress."

A livelihood portfolio comprises a combination of livelihood activities and assets, while a livelihood strategy is about people's selection of the different activities and use of assets in their livelihood portfolio to reach their livelihood goals.

Livelihood diversification

Livelihood diversification is a survival strategy of rural households. Diversification on farm is a livelihood strategy but a rural economy is more than just farming. Farming households need multiple sources of livelihood: "To flourish, they also need a buoyant and supportive non-farm rural economy to provide them with inputs, services, local employment and local demand" (Francis, 2000: 21).

Livelihood diversification can be defined as "the process by which households construct increasingly diverse livelihood portfolios, making use of increasingly diverse combinations of resources and assets" (Niehof, 2004: 321). "Rural livelihood diversification is defined as the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standard of living" (Ellis, 2000: 15). Francis (2000) refers to livelihood diversification as multiple livelihoods. Van Tilburg (2001: 7) points out that options to diversify the household's activities relate to the mix of soil types that the households use in their farming system; the mix of crops the households cultivate; the mix of on-farm and off-farm activities of household members; and the mix of social relations that support the household in periods of distress.

People have different motivations to diversify their livelihoods. Livelihood diversification also depends on the resources people have or can get access to. "Livelihood diversification is pursued for a mixture of motivations, and these vary according to context: from a desire to accumulate to invest, to a need to spread risk or maintain incomes, to a requirement to adapt to survive in eroding circumstances, or some combination of these" (Hussein and Nelson, 1998: 22). Hussein and Nelson (1998) also state that livelihood diversification is often closely connected with the development and implementation of other livelihood strategies. In Bangladesh, Ali (2005) has found that poor households diversify their livelihood through off-farm activities, but tend to return to farming once they become better-off. Francis (2000) and Ellis (2000) have found that deteriorating economic conditions require households to construct livelihoods from different resources and a mix of activities. It is a rational response to risk.

Livelihood diversification is also gendered (Ali, 2005; Francis, 2000; Niehof, 2004). According to Ellis (2000), diversification has both positive effects (finding new niches in the market economy) and negative effects (trapping women in customary roles) on gender relationships. Meanwhile, in this diversification process, the household composition and the relationship between its members are undergoing change. In Africa, Francis (2000: 183) found that "diversified livelihoods can reduce the interdependence of household members." The reason is that men found it difficult to support the family, whereupon women decided to become better-off by relying on their own contribution.

Sustainable livelihood

According to Hussein (1998:3), a sustainable livelihood is "a livelihood that can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base."

Scoones (1998) states that a sustainable livelihood includes five key elements: the creation of working days – creating gainful employment on or off-farm, as part of a wage labour system or subsistence production; poverty reduction; well-being capabilities; livelihood adaptation, vulnerability and resilience; and natural resource-based sustainability. "The first three elements focus on livelihoods, linking concerns over work and employment with poverty reduction with broader issues of adequacy, security, well-being, and capability. The last two add the sustainability dimension, looking, in turn, at the resilience of livelihoods and the natural resource base on which, in part, they depend" (Scoones, 1998: 6).

A sustainable livelihood is a secure livelihood (Niehof and Price, 2001). Households can change as a response to stress and shocks (Ellis, 2000). Vulnerable livelihoods are insecure. Ellis (2000) describes vulnerability as a household's inability to cope with adverse situations with existing assets and resources.

3.2.2 Migration

Migration is a type of livelihood diversification (Ellis, 2000; Francis, 2000; Hussein and Nelson, 1998). According to Mallee (1997), rural-urban migration plays an

important role in the economic growth in the developing world and contributes a lot to the rural household's livelihood. Migration is hard to conceptualize. It has both temporal and spatial dimensions (Jones, 1990). Many definitions are not so strict on the moving distance, but focus more on the degree of permanency of the change of residence. Mobility is the most general concept. There is spatial mobility and social mobility. Jones (1990) distinguishes non-recurrent extra-local movement from recurrent local movement, involving no change in residence, e.g. the movement of seasonal or temporary workers. Furthermore, migration also includes circulation – recurrent extra-local movement. Ellis (2000) states that there are four types of migration: seasonal migration, circular migration, permanent migration (rural-urban) and international migration. In this research, I will group migration into (longer-term) migration and local circular migration. Longer-term migration is defined as moving out longer than three months consecutively; I define local circular migration as moving out fewer than three months consecutively, something that usually includes commuting. In the following chapters, if I do not specify long-term migration or local circular migration, it generally indicates both types of migration.

Migration can be an individual choice as well as a family decision. The former aims at a better life in the city, while the latter is oriented towards risk reduction. In his research in China, Mallee (1997) found that circular labour migrants in China have two characteristics: they have both production income and circulation income because they still have to cultivate land while they earn non-farm income. Migration can take place at the individual and the household level. It is a kind of household or individual strategy, linked to livelihood diversification. In his study on migration in East Java, Indonesia, Spaan (1999) has found that labour circulation is one possible outcome of the interplay between households and individuals, and the influence of changing structural conditions. Other household coping strategies or adaptations to socio-economic transformations are usually considered as well, such as cash cropping, economic diversification, land tenure changes, and modifications in the use of household or external labour. Mallee (1997) sees circular migration arrangements as part of rural households' labour allocation strategies.

Migrants usually maintain their relationship with their families. Ellis (2000:70-71) states that "migrants maintain the flow of remittances to their families maybe because of the need for a fall-back position if urban income sources collapse, and the protection of land and other assets to which the migrant has a claim back home."

Migration is influenced by both push and pull factors (Jones, 1990). In Indonesia, these relate to the economy, the ecology, landholding, the market, education, household characteristics, age, gender, and the social network (Spaan 1999). Spaan (1999) has found that rich households tend to diversify their economic base, while the smallholding households' strategies are more diffuse. Greater access to resources could result in a preference to invest in a higher educational attainment of household members. This in its turn could lead to a high out-migration propensity of these members, who might seek higher education or better remunerated employment elsewhere. Households of the extended and joint types more often seem to resort to labour circulation, especially in those cases where the

dependency ratio[10] is low. Higher levels of out-migration do not necessarily correspond with a low socio-economic status of the household; the creation of rural non-farm activities inhibits rural out-migration; greater social differentiation does not necessarily lead to a greater volume of out-migration.

3.3 Gender

Gender is different from sex. It refers to the psychological, social and cultural differences between men and women (Giddens, 1993). Men and women have different roles in society, which are shaped by the socialization process. Moser (1993) classifies women's triple gender roles as:

The productive role: comprises work done by both women and men for payment in cash or kind. It includes market production with an exchange value as well as subsistence/home production with both an actual use value and a potential exchange value.

The reproductive role: childbearing/rearing responsibilities and domestic tasks undertaken by women, required to guarantee the maintenance and reproduction of the labour force. It includes not only biological reproduction but also the care and maintenance of the workforce (husband and working children) and the future workforce (infants and school going children).

The community managing role and community politics: comprises activities undertaken primarily by women at the community level, as an extension of their reproductive role. It is usually voluntary, unpaid work and is different from paid work in community politics.

Women's reproductive role is enacted within the household; their production role can be carried out in the household and in the community, but the community role features only at the level of the community. Understanding women's triple gender roles is helpful for understanding the impact of outside interventions. Programme and project interventions may bring both positive and negative impacts on women (Thomas-Slayter and Bhatt, 1994). Kevane (2000) argues that credit programmes and projects that help women may have detrimental unintended consequences, such as longer working hours for women, while programmes and projects that change local patriarchal norms might produce more favourable effects for women.

Gender roles vary in different cultures. Gender is also subject to change. Francis (2000) says that gender relations can change in very complicated ways. Extra-household activity-regulating social norms influence women's involvement in agriculture and other economic activities, while norms regulating activities vary considerably across ethnic groups and change over time (Kevane, 2000). Gender roles are also related to age. Francis (2000) has found that, in Africa, older women have less authority over younger women than they had before.

Gender is important in understanding access to resources. Gender is central to men and women when they access and use land and other resources

[10] The dependency ratio is equal to the number of individuals aged below 15 or above 64, divided by the number of individuals aged 15 to 64, multiplied by hundred.

(Agarwal, 1994a; 1994b; 1997; 2001). "Notions of gender […] class, caste, ethnicity and age are integral to understanding the social relations and decision-making processes concerning access to, and use and management of natural resources" (Vernooy, 2005). Francis (2000) notes that gender relations can also be shaped by legal changes in rights to productive resources. Women's economic situation can influence women's status as well. He also states that having one's own income makes women strong. Meanwhile, women's organizations can also empower women in accessing resources (Agarwal, 1994a). But women's exercise of power is often regarded as illegitimate (Rosaldo and Lamphere, 1974). "Intra-household inequality of consumption between men and women is likely to be of greater significance than inter-household inequality based on the sex of the household head" (Ellis 2000: 146).

In this research, I will focus on gender in the household division of labour, land use, agricultural production, and migration.

Gender and land

Women and men can access, control and use land differently. Men usually can easily access and control land. Francis (2000: 85) has conducted research in central Kenya and states that "because men have been increasingly conceptualized as the owners of land, they can successfully lay claim to deciding its use and to the income derived from it. Women's labour input alone is not enough to give them enforceable claims to crop income, because their husbands can claim that the land is their property. State policy has reinforced these trends, with marketing boards directing payments to land owners." He also describes how land ownership rights assigned to male household heads has marginalized women's usufruct rights to land. But it is also possible, as Roquas (2002) indicates that ownership not necessarily implies control.

While land tenure security can influence investment in farming, women in general have less land security than men. Verma (2001) reports that women's investments in farming are related to their ability to maintain long-term security in land tenure. Land tenure is also related to age, life cycle, class, and marital status. Verma (2001) has found that women's labour burden in on-farm and off-farm work, and their ability to control their labour and the fruits of their labour, are the key factors in their ability to invest in soil management and farming practices.

Gender and the division of labour

A household has its own division of labour. Some tasks are undertaken by both sexes, but other tasks are rigidly assigned to either men or women, based on culture and the socialization process. Niehof and Price (2001: 21) state that "while men and women in households typically work together toward the well-being of household members, they are commonly engaged in different activities. They have different tasks and thus allocate their time differently." Sachs (1996) notes that women are more likely to do the work related to food processing and preparation, while men are involved in labour-intensive activities, such as activities and skills that demand greater physical power. Moore (1988:126) observes that "the sexual

division of labour in the 'home' is related in complex and multifarious ways to the sexual division of labour in the workplace and in society at large."

The gendered division of labour is a very complex issue. It varies by class, ethnicity, household's life course, marital status, the relationships of household members, and in agriculture by crop and by locality (Sachs, 1996; Verma, 2001). The household division of labour is also related to resource availability. For Central America, Roquas (2002) has reported that the division of household labour is primarily related to what is produced and the availability and quality of land, the quantity of agricultural production, the number of farm household members, the season, the presence of small children, the relationship between husband and wife, or the number of girls and boys. For poor Sri Lankan households, the labour of women is crucial in producing a household's own food (Schrijvers, 1984). In addition, Agarwal (1994a) states that the gendered division of labour within the household influences women's involvement in decision-making in community activities in India.

Usually, men are more powerful in making decisions about labour allocation, but in some cases, women have bargaining power as well. Francis (2000) has found that African women have some potential to bargain with their husbands over labour. The gendered division of labour is changing. In the past, women and men had clearly separate tasks, but now the responsibilities are more shared (Kertzer, 1991).

Gender and livelihood

Many livelihood diversification strategies are gender-related (Hussein and Nelson, 1998; Niehof, 2004). Francis (2000) states that households with different livelihood bases show different kinds of relations between men and women. Francis (2000) has observed that when African farming income decreases, a household's livelihood becomes more dependent on men's ability to earn income through wage labour, which leads the household becoming more unified under male authority. In Bangladesh, Naved (2003) has found that women usually use income from selling fish for investment or emergency purposes.

Male migrants often have doubts about their wives' abilities and think they are not good at managing the farm without them (Francis, 2000), but according to Kelly (2002), women are more committed than men to the survival of the farm. Women try to find different ways to pursue livelihood diversification, even though they have less access to land, the labour market, education, and other resources (Schrijvers, 1984). Ali (2005) has found that women in present-day Bangladesh are more mobile and have more opportunities to get information, which helps them to develop new livelihood strategies.

Gender relations influence the sustainability of livelihoods. In Shiva's (1997) view, that the partnership between women and nature can influence the sustainability of sustenance. Mtshali (2002) concludes that the gendered division of labour has an impact on rural food security because, while women are responsible for reproductive tasks, men earning cash do not necessarily use it to ensure the household's food security.

Gender and agricultural production and technology

According to Ellis (2000), women's roles in agriculture present a heterogeneous picture, depending on ethnicity, type of farming system, and sources of income. The roles also change from time to time. At the same time, men and women have different roles and different tasks in agricultural production. Their agricultural knowledge is not the same, either. Now that male migration brings about a feminization of agriculture, more women become technology users. Men and women also use technologies differently. According to Niehof (2004), technology interventions will often impact the livelihood activities of either men or women, which subsequently has implications for the livelihood system of the household as a whole. Sachs (1996) indicates that poor women may not benefit from the extended technologies when these require resources that are not easily accessible for them. Vernooy (2005) states that technologies are value-laden and that women and men are involved and affected differently. Extension workers only rarely apply a gender perspective to their work. Male extension officers do not often visit female farmers, due to cultural and other reasons. Mtshali (2002) observes that male extension officers are not trained to work with rural households and to communicate information according to different gender roles. Sachs (1996) has found that rural women are focusing on garden species, but that development planners tend to overlook women's special needs. Male household heads are targeted because they are considered more knowledgeable. Female-headed households are often unable to engage in pilot experiments because the female household heads are overloaded with farming activities and domestic work (Song 1998).

3.4 Social differentiation and social change

Social differentiation refers to the different roles and tasks of people in society. Social differentiation and social stratification are not the same, but they are related to each other. "Social differentiation usually refers to (1) the situation that exists in every social unit, large or small, by virtue of the fact that people with different characteristics perform different tasks and occupy different roles, and (2) the fact that these tasks and roles are closely interrelated in several ways" (Eisenstadt, 1971: 4-5). Eisenstadt (1971:10) states that "social stratification is the social order that is most closely related to (1) a differential evaluation of roles; (2) the existence – especially in large social systems – of categories, or social divisions, of roles, and (3) the existence of a hierarchy or hierarchies of role categories." Kohn (1990:31) defines a stratified system as a "hierarchical ordering of positions in terms of power, privilege and prestige". Since different roles and activities are never equally important to any real society, social stratification exists in any system (Barber, 1957; Grusky, 2001). More qualified people always occupy the more important positions and inequality always allows the more qualified people to move upwards.

Capital goods and high income relate to power; the ownership of capital goods and income contributes to power and prestige (Kingsley, 2001). Social stratification produces social inequality, which influences social participation. According to Dimaggio (2001: 542), "social inequality shapes important aspects of lifestyle, cognition, social membership, and participation, but [that] these

differences in turn reinforce patterns of material advantage and disadvantage." Social differentiation can take on different forms among rural households. Blantje (1986) has reported that consistent differences were found among farmers with respect to household size, the control over labour, cattle ownership, the level of agricultural technology, and productivity levels in Tanzania. In Sierra Leone (Beoku-Bettts, 1991), socio-economic and historical processes have shaped household differences and the conjugal roles in the internal household economy. In this research, I will investigate the consequences of the implementation of the Household Responsibility System for social and economic stratification among rural households.

Social change refers to multidimensional and continuous processes of change in societies. It includes changes in social structure and changes of attitudes or beliefs (Ginsberg, 1958). Social change may give rise to inequality and tensions that may motivate some people to try to restore dominancy (Moland, 1996). In this study, structural and normative changes at household level with regard to family relationships, gender roles and division of labour at household level as a consequence of the implementation of the HRS and migration, are the dimensions of social change investigated. At community level, social change is more specifically interpreted as changes in social and economic differentiation in the study area since the HRS was implemented.

3.5 The cohort approach

This study will have a longitudinal part (life histories) and a cross-sectional part (a household survey). I will use a cohort analysis to integrate both parts. Both qualitative and quantitative methods have been used for data collection and analysis. Their joint application optimizes both reliability and validity (Angrosino, 2002).

3.5.1 Cohort analysis

Ryder (1965: 845) has defined the cohort as "the aggregate of individuals (within some population definition) who experienced the same event within the same time interval". Since the effects of the introduction of the Household Responsibility System (HRS) – which occurred in the research area in 1980 – constitute the key theme in this study, in this research the moment of household formation was used as the event commonly experienced by the members of the same cohort during the same time interval. The cohorts distinguished are the following:

- The 1970s cohort (Cohort 1): these households formed their own, independent unit during 1970-1980 and have experienced the collective era and the HRS era.
- The 1980s cohort (Cohort 2): these households formed their own, independent unit during 1980-1990 and have experienced the start of the HRS.
- The 1990s cohort (Cohort 3): these households formed their own, independent unit during 1990-2000 and have only experienced the HRS era.
- The 2000s cohort (Cohort 4): these households formed their own, independent unit from 2000 to the present and have only experienced the HRS era.

3.5.2 Temporal perspective

A longitudinal approach or temporal perspective is necessary for the documentation of social change (Ali, 2005), and when the researcher's chief interest is to uncover the dynamics of a process (Pennartz and Niehof, 1999). Within a temporal perspective, there are different kinds of time. Pennartz and Niehof (1999) distinguish historical time, daily time, individual time, and household time or family time.

Historical time

Households respond to historical events, including policy changes, and adapt their livelihood strategies accordingly. In this study, historical time provides the temporal context within which the processes are studied. The historical period under study runs from 1970 to the present.

Daily time

Daily time refers to time allocation and time routines on a daily basis in livelihood and domestic activities. Gender is important in daily time because, every day, men and women live according to a different time allocation.

Individual time

"Individual time is referred to as being made up of the milestones in the life course and is progressive in nature" (Ali, 2005: 67). Individual time influences daily time. Older people usually stay at home to take care of the field and the children, while younger people may spend more time earning cash through migration work.

Household or family time

Each family or household has its own life history. In each stage, the household has different needs, resources, and livelihood activities. Pennartz and Niehof (1999) note that family time designates the timing of such life course events as marriage, the birth of a child, a young adult's departure from home, and the transition of individuals into different family roles, as the family moves through its life course.

The household's life course

Pennartz and Niehof (1999) suggest the use of a household's life course approach, with the household's life course starting at its formation, and ending with the founders' exit. Li (2005a) distinguishes four stages for Chinese farmer households in the 1970s: the beginning stage, the maturing stage, the matured stage and the aging stage.

(Casimir, 2001) says that a stage in the life course should be taken into account as an attribute of the household, and that it is a determining factor in the allocation of household labour. Hence, the division of labour in the household is related to the household's stage in the life course. For example, at a certain stage, grandparents and other relatives may play a role in the care for children. Verma

(2001) mentions that older women often take care of grandchildren, using this important labour input to negotiate other resources in return.

Lu (2005) has classified two marriage cohorts: the 1970 cohort was defined as those who were married between 1965 and 1979, while the 1990 cohort was defined as those who were married after 1985. She found that the effects of conjugal resources on household labour allocation do not vary with the different social-cultural contexts of the 1970s and 1990s.

Life course is a very important concept in this research. Households in different stages of their life course have different needs and resources, and different attitudes to agricultural production, and adopt different strategies in household livelihood production. Therefore, the stage of the life course influences a household's division of labour and availability of resources. According to research in China (ACWF, 1991), a household is usually not well-off in the first stage of its life course.

3.6 Conceptual framework and operationalisation

3.6.1 Household

The household is the central unit of analysis in this research, defined as a "co-residential unit, usually family-based in some way, which takes care of resource management and primary needs of its members" (Rudie, 1995: 228). I use this definition because of its emphasis on joint resource management for basic needs, which is important because a household is a key agent in linking resources and livelihood. The household is seen as the locus for livelihood generation, taking into account the debates on the relationship between gender and household (Kabeer, 1991; 1995) and gendered access to land and other resources (Agarwal, 1994a; 1994b).

3.6.2 Livelihood

Following Niehof and Price (2001), I see livelihood as an open system, interacting with other systems and using various resources and assets to produce livelihood, with the household as the locus of livelihood generation. Niehof (2004) conceptualizes livelihood as having the following components: inputs, output, purpose, activities, agency, quality, environment, and locus.

In this research, special attention is given to household land use for on-farm livelihood activities, because land use remains a key component of rural livelihoods. An emerging livelihood activity in rural China is migrant labour. Migration is an off-farm livelihood activity.

3.6.3 Gender

Gender refers to the psychological, social, and cultural differences between men and women (Giddens, 1993; Williams et al., 1994). In this research, I will focus on

gender in the division of labour, the access to and decision-making on land, land use, agricultural production, migration, and extension service provision.

3.6.4 Social stratification

In this research, I will look at how the emergent differences in household structures, income, gender roles, land use, and livelihoods lead to an increased social stratification, defined as a "hierarchical ordering of positions in terms of power, privilege and prestige"(Kohn and Slomczynski, 1990).

3.6.5 Life course

Because in present-day China, children's schooling plays a crucial role in the farming household's livelihood strategies, I will define the household's life course stages as follows:

> *Stage 1*: the formation stage – the families concerned are comprised of a husband, a wife and child(ren). The oldest child in the family is below school age (seven years of age). Usually, the new independent household is established when the first child is born, after which land and other properties are distributed to it.
>
> *Stage 2*: the maturing stage, or school-age stage, or growing stage – the families concerned have an oldest child who is 7-18 years of age.
>
> *Stage 3*: the matured stage – the oldest child or all children are above 18 years of age, these children are considered as part of the household labour force.
>
> *Stage 4*: the post-parental stage – when all of the children have their own households and have left home, the parents stay alone or stay with only one adult (married) child.

Figure 3.1 presents the conceptual framework of the research. In this framework, households are defined as resource managing units within which the members' daily needs are provided for by the development and implementation of livelihood strategies. In a rural setting, where livelihoods are agriculture-based, land use and the use of agricultural technologies are crucial for the success or failure of livelihood strategies. Both gender and life course are crosscutting variables because they determine, to a large extent, the access to land, as well as the labour potential and allocation of the household. All these processes interface with the natural and institutional environment, including the economic environment (livelihood options, migration) and the policy environment (the HRS that allows households to access and use land). Livelihoods are generated by the allocation of resources and the use of capitals (see extensive livelihood literature), which include physical, financial, human, and social resources. Social stratification reflects differential livelihood outcomes and – at the same time – determines access to the resources (notable land, capital) needed for livelihood generation and the implementation of livelihood strategies. The assumption is that socio-economic differentiation (on which social stratification is based) has increased and that this is – at least partly – related to the introduction of the HRS. Hence, the contents of the boxes relate to

each other in ways indicated by the arrows. The arrows thus reflect the definitions of the key concepts of household, gender, and livelihood (Ellis, 2000; Niehof, 2004).

The study is not based on one grand or meta theory from which hypotheses are derived and tested. It draws on a number of interrelated theoretical frameworks, notably those of livelihood theory and gender theory (Niehof and Price, 2001, Niehof, 2004) for the linkage between gender and livelihood; the theoretical arguments about the household as the locus for livelihood generation; and the debates on gender and household (Kabeer 1991, 1995), gendered access to land, and other resources (Agarwal, 1994a).

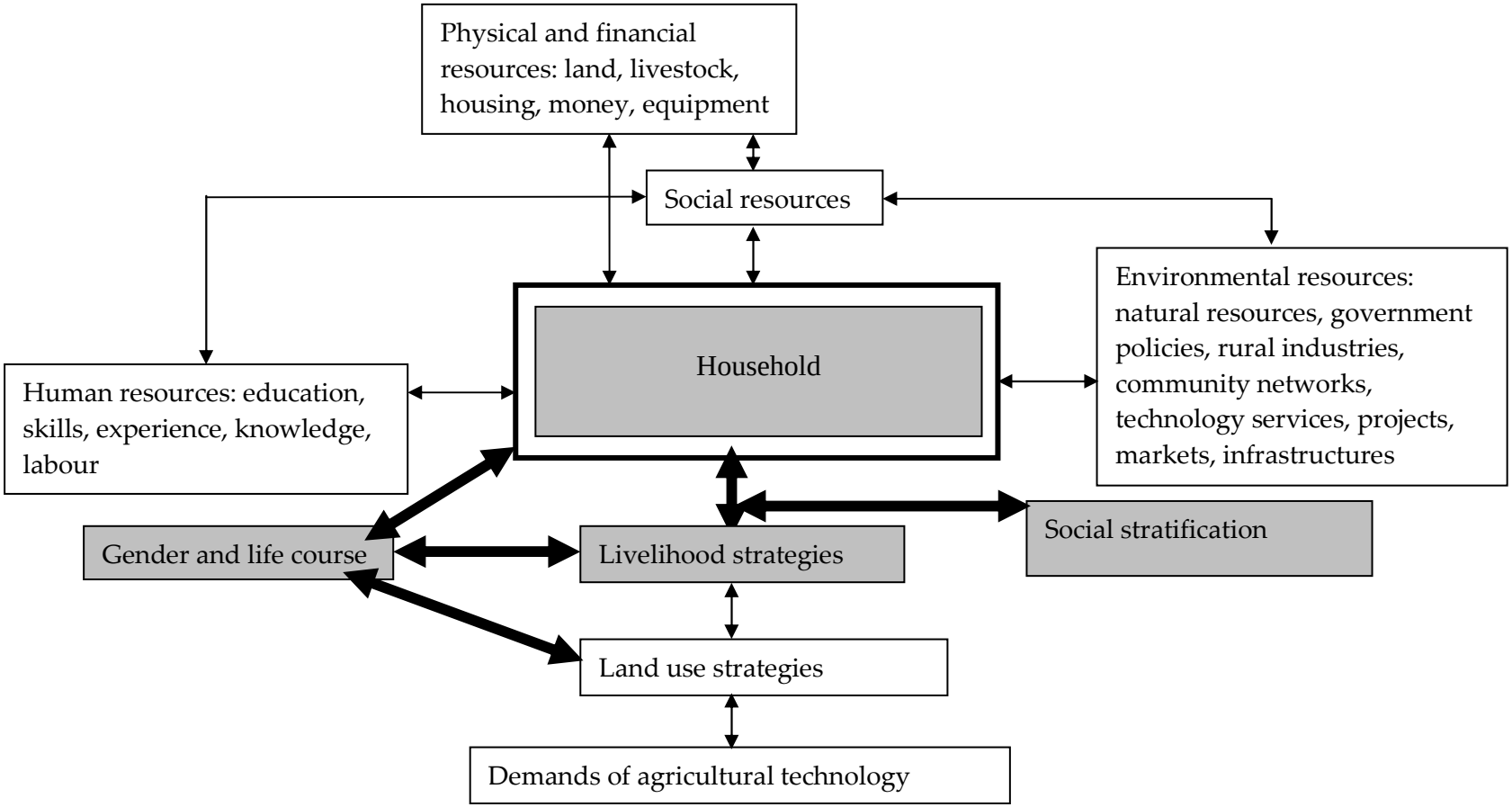

Figure 3.1: Conceptual framework

3.7 Objectives and research questions

The first objective of this research is to identify the mechanisms of the interrelated changes in farming households, gender roles, livelihoods, and household land use practices upon the implementation of the HRS and in a changing social context. The second objective is to gain understanding about how these changes at the household level lead to increasing socio-economic heterogeneity among households and affect social stratification in rural society. The third objective is to make available insights about the emerging farming household heterogeneity that the extension sector can benefit from, in order to improve its performance. The specific objectives and research questions are as follows:

Objective 1: to gain insight into the changes in farming households since the introduction of the HRS.
Research questions:

1. What was the character of the Chinese farming household in the collective period?
2. How was the land allocated to and used by households?
3. What are the changes in farming households after the HRS, in terms of household structure, composition, size, sources of income and livelihood (including land use), and gender roles?

Objective 2: to analyze the relations between the changes in the household, gender roles, livelihood, and land use strategies, as well as their impacts on rural society.
Research questions:

4. How do different household types influence decision-making on land use?
5. How do the different stages in the household's life course influence decision-making on land use?
6. How does gender influence the farming household's decision-making on land use?
7. How do gender and the life course stage influence the different livelihood strategies?
8. What are the impacts of the changing household livelihood strategies on rural society?

Objective 3: To indicate how agricultural extension policies can better accommodate the increasing heterogeneity in farming households, particularly regarding household land use.
Research questions:

9. What are the current agricultural extension policies and delivery mechanisms, and how appropriate are these, as seen from a household perspective?
10. What are the implications of diversified land use and livelihood strategies for agricultural extension?

Chapter 4
The research area

This chapter provides a general description of Guizhou province, as well as more detailed information on the study area, the municipality of Kaizuo. The focus is on their demographic profile, natural resources, land use, livelihood, and cultural aspects. There were various reasons to select the municipality of Kaizuo in Guizhou province as the research area. First, the researcher has experience and contacts in the region, because she worked in a project funded by the International Development Research Center (IDRC). Some secondary data are available, as well as a familiarity with the study's region. The area itself has a profile appropriate to the research topic. This includes preliminary evidence of the coupling of a feminization of agriculture with male migration, linked to the reforms undertaken from the late 1970's onward and the instilling of the HRS. The province has a narrow land base and a high population density; therefore, arable land per capita is very limited. The land per capita in the municipality of Kaizuo is a little higher than on average in the province of Guizhou. Productivity is very low, however, and the people mainly depend on natural resources. Due to the aforementioned factors, out-migration from the rural areas has also become a prominent feature of the municipality of Kaizuo.

4.1 Guizhou province

Guizhou province is a mountainous province, located in the South-west of China (Figure 4.1). It is a karst limestone area, and there is no plateau in Guizhou province. The average altitude is 1100 m. The total land area is 0.1762 million km^2. The cultivated land is 4,487,455 ha, accounting for 1.7 *mu* (15 *mu*=1 ha) per capita (GPG, 2009). The forest coverage is 39.93 percent. Water resources are rich but difficult to use in this karst area. The province is also rich in coal resources.

Figure 4.1: Location of the municipality of Kaizuo (Tyler, 2006)

There are nine prefectures (cities, regions), 88 counties, and 1451 townships in Guizhou province. The total population was 39.76 million in 2007, among which the rural population amounted to 28.52 million, accounting for 71.8 percent (GSGSSB, 2008). There are 49 ethnic groups, the main ethnic groups being Miao, Buyi, and Dong, who together account for 38 percent of the total population.

In 2007, the main grain crops were rice and maize (3.2 million ha), the orchard area took up 0.12 million ha, while the area cultivated with edible oil crops covered 0.57 million ha. The meat produced amounted to 2.23 million tons (GSGSSB, 2008). The provincial government provided 54.5 billions *yuan* (6.8 *yuan*=1US$) for agricultural development. Animal husbandry accounted for 33.7 percent of the increased agricultural income in 2008 (GPG, 2008)

The main income sources are from wine production and tobacco production. The government is promoting tourism. In 2007, there were 62.6 million visits by tourists (GSGSSB, 2008). Migration is very popular in the rural areas and many migrants send remittances. In 2006, there were 780,000 migrants (GPLSSD, 2007), while in 2004, the amount of remittances amounted to 6.9 billion *yuan* (Jing-qianzaixian, 2004).

In 2007, 84.91 percent of rural people joined the rural medical cooperative (GSGSSB, 2008). The income is 2374 *yuan* per capita in the rural area. The average house size takes up 24.5 m^2 per person. The ownership of washing machines, motorcycles, colour TVs, telephones, mobiles, and refrigerators in rural households accounts for 33.6 percent, 17.2 percent, 72.9 percent, 37.8 percent, 34.2 percent, and 3.8 percent, respectively (GSGSSB, 2008).

4.2 The municipality of Kaizuo

The municipality of Kaizuo belongs to Changshun County, in the Qiannan Prefecture, in Guizhou province (Figure 4.1). In the Autonomous Qiannan Prefecture, Miao and Buyi groups are the main ethnic groups; more than half of the population belongs to these two groups. Kaizuo is dominated by Buyi people. The seven villages selected include both Buyi and Han people, who are in the majority. All the villagers like to build houses next to each other, located in a small circle. Nowadays, elderly Buyi people can still speak the Buyi language and wear traditional garb.

The municipality of Kaizuo encompasses 37 villages, belonging to three administrative villages (see Section 4.4). According to KPG (2007), there are 2127 households with a total population of 9620. The number of illiterate adults is 1907. The average income per capita is 2168 *yuan*. The arable land in Kaizuo takes up 17,800 mu, among which 11,680 *mu* is paddy field, while the upland covers 6000 *mu*. In 2007, there were 3000 *mu* of fruit trees, mainly apple, pear, and raspberry. The cultivation of mushrooms covers 220 *mu*, while that of watermelon covers 200 *mu*. It is the rice production base of Changshun County. There are four small private factories, introduced by the government and located in the newly planned development zone. These factories are a pottery factory, a charcoal-making factory, a resin-making factory, and a ferrous alloy factory. The electricity coverage is 100 percent. All villages have paved roads that can be accessed by motorized vehicles.

The crude birth rate is 6.9 ‰. The annual revenue of the municipality is 1,836,300 *yuan* (KPG, 2007). There are also several small coal and limestone mines, run by the villagers themselves.

Kaizuo has a subtropical climate, with an average annual temperature of 14°C, and lies at an altitude of 1250 metres. The total precipitation is approximately 1214 mm, while the total sunshine time is 1265 hours. There are four seasons. The unfavourable periods in the year in terms of climate are a drought from June to August, extreme cold in April, and fierce winds in September[11].

There are two kinds of agro-ecological areas. One is a rice-based paddy field area and the other is a maize-based upland field area. The average landholding per capita is above the average level in Guizhou province. Rice, maize and rapeseed are the main crops (Sun, 2007). The staple food is rice. Some villages also cultivate tobacco, which is promoted by the government. Some villages grow watermelon. Recently, the cultivation of fruit trees and other cash crops has been increasing. Most households have home gardens, but the vegetables they grow there are mainly for self-consumption.

There is one school in the municipality's centre, which teaches primary as well as middle school students. Several village-based schools only accommodate primary school students. Since 2006, the Chinese government does not charge any tuition fee and book fee for primary school students or middle school students in rural areas. Yet, the students have to go to the county centre to attend high school and have to pay higher tuition fees if they want to go to a better high school**.** There is one municipal clinic and a number of village clinics. There is a market in the municipality, and Friday is market day. There are three nearby markets, too, taking place on different market days.

From 1990 onward, the provincial government has launched the Integrated Rural Development Project in the municipality. This has provided the framework for the promotion of many hybrid crops, fruits, and animal raising. The agricultural infrastructure and agricultural production technologies have improved a lot. The people began to grow hybrid crops. The project was implemented only until 1996, because it was part of a five-year plan. The villagers had already planted many fruit trees. The yield is not high, however, because the villagers do not master fruit cultivation technologies very well and the technical services are poor and limited.

The Community-based Natural Resource Management (CBNRM) project has been implemented from 1995 onward. It is supported by the International Development Research Centre (IDRC, Canada). At the beginning, only the villages of Dabuyang and Xiaozhai were involved in it. Yet, recently, the project covers most of the villages within the municipality. The project promotes the collective management of natural resources and provides a lot of agricultural technological information, required by the villagers on crops, fruit trees, and animal husbandry. The project applies a gender perspective; women are required to attend village committee meetings and other natural resource management activities.

Every year, the government provides training and projects on rural development. Compared to other municipalities in Changshun County, the

[11] The CBNRM project team, Guizhou Academy of Agricultural Sciences (1998), The Final technical report of the CBNRM project.

municipality of Kaizuo has fewer activities, because it is one of the richer municipalities in the county. At the same time, the county government thinks that Kaizuo gets too much support from the two projects mentioned above and would like to support other, poorer municipalities. There are also government subsidies for grain production. In 2006, the subsidy given to the villagers in Kaizuo was 103,721 *yuan* for rice production (KPG, 2006).

4.3 A profile of seven selected villages

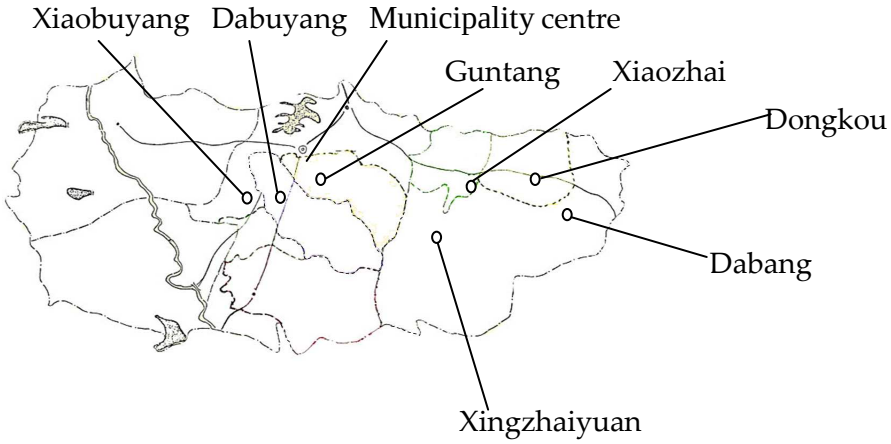

Figure 4.2: The location of the seven research villages in the municipality of Kaizuo (adapted from CBNRM Guizhou project, 1999).

Figure 4.2 shows the distribution of the selected seven villages in the municipality. They belong to one administrative village (before November 2007, it was two). However, they belong to two kinds of agricultural systems. Dabuyang, Guntang, and Xiaobuyang are rice-based villages (paddy field villages), while the other villages are upland villages that have maize-based farming (see Table 4.1). Vehicles can access all seven villages, but there is public transportation to the first three villages only. The first three villages are not far from the municipality centre (less than two kilometres) and it is easy for the people living there to go to the market, the township school and the clinic. For the other four villages the distance is more than four kilometres. There is one incomplete primary school (only grades 1, 3, and 4) and one private clinic in these four villages. All the villages have tap water; only a few households are still fetching water from a well. Cattle are usually brought to small ponds for drinking.

Thirty years after the implementation of the HRS, the landholding appears to be unbalanced. One household may have been allotted land intended for nine people, while only five people use it. Some lands have been abandoned or reclaimed by the forest. Another household got land meant for one person only, while four people are using it. There is no food security problem in these villages. The poorest households can get government subsidies that will enable them to survive. The households with too little landholding migrated earlier, once they found no possibilities to earn enough money through cultivating land. For this reason, the remaining households no longer classify as poor, even though their landholding is little.

The average household size is about five people (Table 4.1). Most unmarried young people migrate to earn money; eighty percent of them are working in the industrialized provinces of Zhejiang, Jiangshu, and Guangdong. About half of the married men below 40 also migrate to other provinces. There are few migrants who are older than 40. Married women rarely migrate. If they do, they usually accompany their husbands. Married men who are older than 40, usually work either in the nearby coal-mine or on building sites in the vicinity. Almost all the unmarried younger people migrate. Their numbers have been increasing rapidly during the past five years. The education of young people is higher than that of older people, especially that of women. Most young people graduate from middle school or a higher form of education.

Table 4.1 Profile of the seven research villages

Villages	Dabu-yang	Gun-tang	Xiao-Buying	Dong-kou	Xiao-zhai	Xinzhai-yuan	Da-Bang
Demography							
Households	64	74	16	56	33	30	25
Population (individuals)	312	310	83	310	140	152	123
Male (individuals)	161	135	45	159	73	90	72
Female (individuals)	151	175	43	151	67	62	51
Migrants (individuals)	74	95	16	48	8	23	12
Migrated households*	12	23	5	4	3	3	1
Land *(mu)*							
Paddy field	600	400	170	130	70	90	140
Upland	110	140	50	245	120	180	234
Land reclaimed by forest	0	0	0	120	30	220	62
Physical and material resources *(households)*							
Biogas	22	4	0	8	6	29	0
Ploughing machines	15	11	2	3	3	2	1
Grain processing machines	2	0	0	0	0	0	0
Harvesting machines	12	8	2	1	0	0	0
Trucks	3	1	1	4	1	1	1
Groceries	3	1	0	1	0	0	0

Note : data from key informant interviews with village leaders.

** Both husband and wife migrate with or without children.*

The local energy sources are mainly electricity, coal, and firewood. Most households have an electric cooker, while an increasing number of households has an electromagnetic stove. They also have biogas, which the government has been promoting for several years. More villagers have begun to use small agricultural machines since the government has started to subsidize these. In the upland

villages, the villagers help each other and exchange labour in the busy season, even nowadays. There are only two grain-processing households in the seven villages, but many households have small machines for processing maize for their own consumption, especially in the upland area. In the paddy field villages, the main sources of income are migration, rice cultivation, and animal husbandry. Agricultural land use is not very diversified, because the villagers do not have enough upland fields to cultivate a diversity of crops (Table 4.2). Rice and rapeseed are the main crops in the paddy field villages. In the upland villages, rice fields are very small and the harvested rice is enough for the household's own consumption only. In the past, the villagers had to sell maize and use the money to buy rice. Maize was one of their staple foods in the past, but rice has always been the preferred staple because maize is regarded as poor people's food. Now, they have enough rice to eat and can use the surplus maize to feed the pigs.

In the seven villages, married husbands usually engage in circular migration to work in the mines, on construction sites, and in transportation. If men leave for long-distant migration, they usually take their wives with them. Fewer wives migrate alone, compared to men who migrate alone. Some younger wives are left at home to manage the land, but these are few. The ones left at home are mostly the older people and children. Even if migration and cash crops provide people with more cash, they still regard rice and maize as the important resources for basic security. Only a few households that do not migrate abandon the rice and maize cultivation.

Table 4.2 Livelihoods in the seven villages

Villages	**Main livelihood crops/resources**
Dabuyang	Rice, rapeseed, migration, animal husbandry
Guntang	Rice, rapeseed, migration, animal husbandry
Xiaobuyang	Rice, rapeseed, migration, animal husbandry
Dongkou	Maize, rice, animal husbandry, watermelon, circular migration
Xiaozhai	Maize, rice, animal husbandry, watermelon, migration
Xinzhaiyuan	Maize, rice, animal husbandry, migration
Dabang	Maize, rice, animal husbandry, tobacco, migration

** Ranking according to villagers' perception of importance*

Many households have built new and good quality concrete brick houses[12], especially during the past three years. In the village of Xiaozhai, only five households still do not have modern houses. In the village of Dabuyang, all households but two have concrete brick houses. Some have even built three-storeyed concrete brick houses. Eighty percent of the cost for building a new house comes from migration (both long-term migration and circular migration), although some households have to borrow money for building a new house as well.

[12] The common houses are concrete brick houses, houses with a concrete roof and a brick wall, or tile roof houses with a timber or brick wall. The first variety is regarded as a better house.

4.4 The administrative system

The administrative system counts five levels: a central, provincial, prefecture, county and municipal level (see Figure 4.3) (also see Sun, 2007). Some bureaus are only found at four levels and do not have a municipal-level station, such as the poverty alleviation office. The village administration does not belong to the governmental system. Natural villages form one administrative village. Village leaders are elected among the villagers. They have to cultivate their own land. The seven research villages are seven natural villages[13].

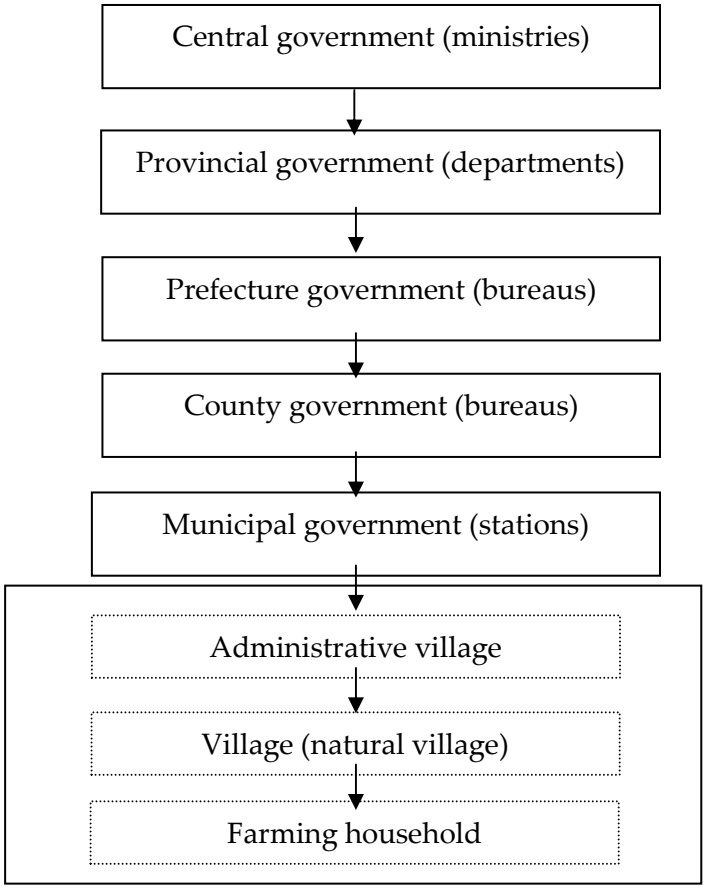

Figure 4.3: The administrative system (adapted from Liu et al., 2004)

[13] Natural villages are villages that have evolved naturally around their original settlers.

4.5 Agriculture and livelihood

The Household Responsibility Systems (HRS)

In the municipality of Kaizuo, the implementation of the HRS started in 1980. In 1981, the system was fully implemented. Land was allocated to each household to manage, but most villages reserved several parcels of land for collective purposes. Later, this reserved land was allocated to households with few landholdings, or was used for collective purposes, such as village buildings and village roads. In the seven villages, no collective land remains. The land was divided based on soil quality and location. Each household was allocated both good land and poor quality land. At the start of the HRS, the villagers did not pay much attention to the land contract. They thought the lands would be returned to the collective to manage after five or fifteen years. In 1995, there was a second round of land allocation after the first 15-year contract period. Land was contracted to each household for another thirty years in this second round. In Kaizuo, however, the land was not reallocated as was done in other provinces. The households only renewed the contract certificate and extended the contract period. The unbalance of household landholding was therefore not resolved; nowadays, it is still increasing. Some households have moved to the city but still own their land, while others households have grown but could not get more land.

Farming

The main agricultural crops are rice, maize, and rapeseed. The staple food is rice. Rice is grown on the paddy fields, while maize is grown in the uplands. Rapeseed grows on both fields after the rice or maize has been harvested. During the festivals, a lot of sticky rice is consumed. Many households grow it for their own consumption only. The input for a rice field per *mu* includes 10 *yuan* for seeds; 1,5 *yuan* for pesticides; 30 *yuan* for fertilizer; and 100 *yuan* for labour (hired during transplanting and harvesting). The income per *mu* is 700 *yuan* (not including the labour cost of the household itself). Most households have home gardens, but the produced vegetables are mostly for home consumption and not for the market. Extra vegetables are used as pig feed or they are discarded. Since fifteen years, the government and the CBNRM project have been promoting the production of cash crops, such as tobacco, mushrooms, and fruit trees. The common crops are chilli, fruit trees, Chinese cabbage, potato, soybean, sunflower, and pumpkin, in addition to the three main crops that are planted in the home garden or the upland. Fruits trees are also common, even though their management is not very good. The seasonal calendar for the main crops is listed in Table 4.3:

Table 4.3 Seasonal calendar for the main crops

Months	Rice	Rapeseed	Maize	Fruit trees	Chili
January				Fertilizer application	
February				Fertilizer application, pruning	
March		Blooming			
April	Seedling raising	Weeding	Land preparation		
May	Land preparation, ploughing, fertilizer application, and transplanting	Harvest	Sowing		Land preparation, seedling raising, watering, weeding
June	Transplanting, herbicide application		Weeding, fertilizer application		Transplanting, weeding, fertilizer application, Watering
July	Fertilizer application, watering		Weeding, fertilizer application		Weeding, fertilizer application watering
August	Watering		Weeding, fertilizer application		Harvesting
September	Watering		Harvesting		
October	Harvesting	Land preparation			
November	Post-harvest, drying and packaging	Sowing, fertilizer application		Planting	
December		Sowing, fertilizer application		Pruning	

In the past, villagers were not very attracted to animal husbandry. There is a saying in the municipality, "raising pigs is for eating in the Spring Festival [Chinese New Year] and raising poultry is for getting pocket money", which shows that they do not attach much value to animal husbandry. Perhaps this is because the government did not promote animal husbandry during the collective era and there was not enough food to feed animals. Now, however, the villagers do value animal husbandry on a daily basis, because it increases their income. Especially in the upland villages, the households now have extra maize to feed the animals.

The money made from tobacco production is the main revenue of the municipality of Kaizuo and the government puts a lot of effort into stimulating the tobacco production. Tobacco is an important income source for several villages, but for only one of the research villages. The government and the CBNRM project have also helped villagers to grow fruit trees, which was successful in some cases and in others not. The government started to promote the mushroom production in 2007 in many of the municipality's villages. The collection of medicinal herbs and wild vegetables is also a common activity of the local people. Vendors come to buy those in the harvest season. Due to overexploitation, however, finding medicinal herbs and wild vegetables has become increasingly difficult.

The villages have relatively better-quality land than other villages in the province, but the land utilization efficiency is not high. Some lands are even abandoned, especially the remotely located land. In the past, there was a diversity of crops, but now, many local varieties have disappeared or are disappearing, e.g. red millet, fragrant wheat, and local wheat. The crops growing in the municipality are usually monocropped. The villagers mentioned that hybrid rice and maize cultivation conflicts with traditional crop cultivation with regard to time or space. They had to stop cultivating these traditional crops in order to have time and space for hybrid crops.

The land use pattern in the village of Dabuyang shows that, in 1995, there were rain-fed paddy fields (Figure 4.4). Now, the situation has improved in many villages because of irrigation systems that were built and supported by the CBNRM project and the government. Wasteland is common in the municipality; it is used for grazing cattle (Sun 2007a). Forest does not attract local people very much in terms of yielding income. There is usually only good forest surrounding the villages (the village forest), because people believe that a good village forest brings them prosperity and wealth. The more remote forest land is not well managed. It consists mostly of bushes. The government reserves some lands strictly for natural forest growth; there, the quality of the forest is better. The government also provides subsidies for the villagers to convert steep land to forest, which is benefitting the upland villages because they have a lot of steep land. The subsidies are 210 *yuan* and 300 kg rice per *mu* annually, with at least eight consecutive years of subsidies.

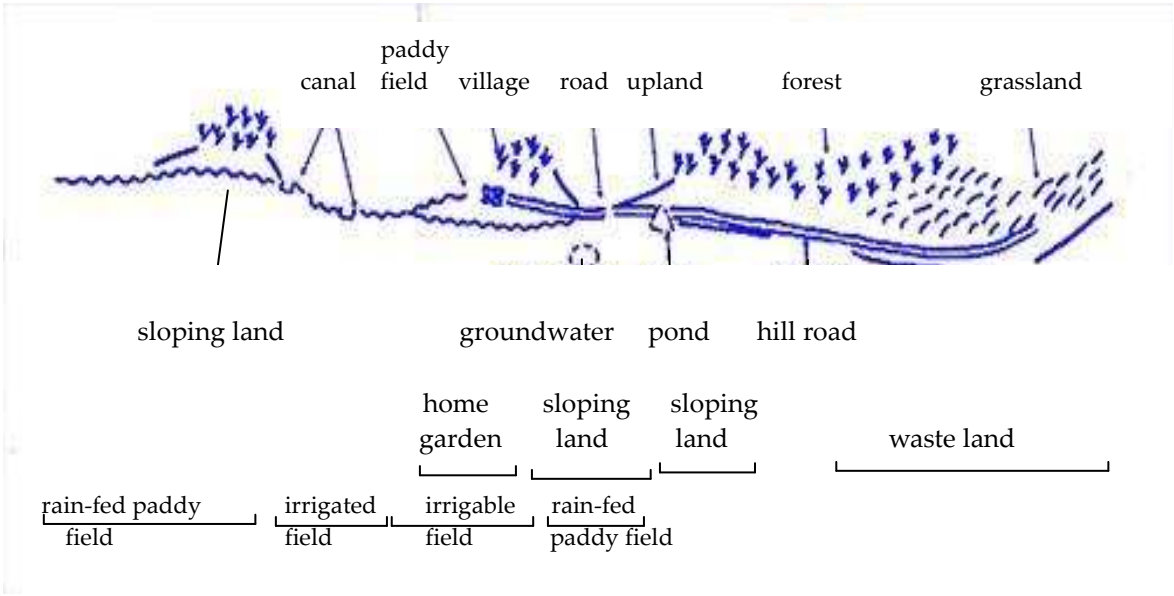

Figure 4.4: Land use in Dabuyang village (adapted from the CBNRM Guizhou project, 1995).

Migration

Migration is common in the municipality. While there was little migration in the 1980s, it started mostly in the 1990s. During the 1980s, men engaged in daily or short-term circular migration, working in nearby places. They usually worked in house construction. In the early 1990s, usually unmarried and younger people migrated because they were surplus labourers in the non-busy season, and had nothing to do but chat, play games and visit friends. In 1994, for example, there were 25 migrants from the village of Dabuyang village and three migrants from the village of Xiaozhai, most of them unmarried and younger people (Chen et al., 1995). Nowadays, both married and unmarried people migrate.

Kinship ties play an important role in migration. The children are usually left behind with relatives, especially grandparents, who look after them if both husband and wife migrate. Relatives also help the new migrants, for instance by introducing them to employers.

Rural enterprises

Before 2003, there was no rural enterprise in the municipality. Now, there are four private factories introduced by the municipal government, but the workers are mainly from other places. The local villagers are not satisfied with the payment there; they would prefer to migrate for higher salaried work in the industrialized provinces. Since these factories are not environment-friendly, the villagers are also reluctant to work there because they worry about pollution.

Mining and transportation

In the past, the villagers ran coal- and limestone mines without any strict management. Yet, mining is now strictly controlled by the government. For the villagers, it is difficult to get the certificate necessary for running a mine. There are only a number of small mines run by the villagers themselves, with each mine employing several helpers. There is a big coal-mine in a neighbouring county, at only a 30 minutes walk from Dongkou. Many Dongkou villagers commute daily to work there, earning relatively high salaries.

More people earn money by working in transportation. They may have their own trucks, or they work for other truck owners. They help local rural industries to transport materials and products. They mainly help villagers by transporting construction materials and manure. In the past, they used tractors or horse carts to do so.

4.6 Cultural profile

The municipality of Kaizuo is home to both Buyi and Han people. This section will provide a brief description of the culture in the municipality, as well as highlight some Buyi cultural features.

Marriage and household division

Only a few people remain unmarried in the municipality. The nuclear family is the dominant household type. Marriage is not just the concern of a couple, but of both of the families involved. Attention is paid to the economic situation and social status of both sides, which should be more or less equal. In the past, husband and wife were from neighbouring villages. The families were introduced to each other by matchmakers, who usually were relatives. Nowadays, many girls search for a marriage partner far away and follow the husband to live in a better place. Through migration, young people also have more opportunities to meet a suitable partner. However, matchmakers are still needed by the family of the husband to approach the family of the wife, to get permission for the marriage and discuss the details of the wedding ceremony.

The local residence pattern is patrilocal, meaning that the woman moves to the husband's house to live. It is customary for the husband's family to pay more for the preparation of the wedding and the wedding ceremony. His family gives money to the wife's family for the wedding gifts, which is put together with the woman's dowry. The wedding ceremony lasts for two to three days. The husband's family makes an effort to build new houses for their sons, for when they are grown up and get married. Here, they will later establish their own household.

There is a proverb in the municipality that says "big trees have branches and big households have to be divided into small households", meaning that households have to be split when they are big enough. Household division proceeds according to certain principles. One is that the land is divided according to the number of sons. Each son gets one portion. If he gets married, he cultivates it himself. If he is unmarried, he and his parents cultivate it together. If he is the only

son or youngest child, he will not separate from his parents. If the parents want to provide for themselves, they have two choices. They cultivate land themselves when they are still capable to do so, but they have to ask each son to give one parcel of land to them. If they cannot cultivate the land themselves, they ask each son to give them an equivalent quantity of rice or maize. In addition, they will grow some vegetables for their own consumption. Another principle is that the house is also divided into equal parts that are given to each son. The parents also have one part, but usually they live in the older buildings. When the older married sons have the capacity to build their own houses, they move to these. Trees, pigs, and cattle are divided likewise as well. The household division may work out differently in different situations. Some households do the division once the son gets married, while others do it after the first baby is born. The latter is more common.

During the collective period, households owned no land or trees. Households were separate only as cooking units. They had few possessions, just some basic necessities like chopsticks, bowls and chairs. There was no stored maize or rice to divide, either.

Zuojia

Zuojia is a Buyi cultural institution. In the past, Buyi women got married very young but they stayed at home for several years after marriage. They were required to go back to their natal families at the end of the first day of the wedding ceremony. They were only invited to help the husband's family with agricultural activities during the peak season, but the husband was not required to help his wife's family with their agricultural activities. The women did not come to live with the husband until they were pregnant. They were then required to deliver the baby in the husband's house. Nowadays, *zuojia* is still required for Buyi women, but it is not so strictly adhered to anymore. Some women just go home for one day after the marriage for a symbolic visit, and many young couples migrate to the city after the wedding ceremony. If necessary, the younger husbands now also go and help the wife's parents more frequently with agricultural activities.

Buyi people like to sing Buyi songs, which are mostly love songs. While older people, especially women, still know the songs, few younger people can sing them. An aged Buyi person can speak the Buyi language. Aged women wear the traditional costume. The young people migrate to earn cash income and are not very interested in traditional culture. Yet, lately, women increasingly have begun to wear a modified version of the traditional costume and perform traditional dances. The possible reason is that Guizhou is a province with many ethnic groups. The provincial government promotes tourism by conserving the traditional culture of these groups. The tourists are interested in the diverse cultures and the municipality of Kaizuo is influenced by this culture conservation campaign, even if it is not a tourist site. Another explanation may be that ethnic groups who live among a mixed population tend to want to keep their own culture alive.

Zahui

Zahui is a kind of money raising activity in Kaizuo, similar to a rotating savings

and credit association (ROSCA). Several good friends put some money together and form a *zahui* group. If one of them urgently needs to use it, the others will allow this person to use the money first. After one round finishes, the group members will discuss whether the group will continue its operation or not. There are different kinds of *zahui* types. Based on activities and features, some examples are the aged cooperative, in which elderly people form a group; the wedding cooperative, for people who need help for their wedding ceremony; and the house construction cooperative, for people who need help to get their house built.

Based on the required contribution per household/person, there are the following categories of *zahui*: the 10-*yuan* cooperative, the 20-*yuan* cooperative, the 50-*yuan* cooperative, and the 100-*yuan* cooperative, according to the contribution per person or household. Sometimes, the required contribution is in kind, e.g. in the form of rice, soybean or rapeseed oil. One group member may contribute 35 *jin* (1 kg= 2 *jin*) of rice, five *jin* of soybean and one *jin* of rapeseed oil.

Women are interested in *zahui* in particular. Men and young people also attend *zahui*, but not so much as women do. People can participate in several *zahui* at the same time. *Zahui* is a way to raise money as well as a system for mutual assistance.

Believes and fengshui culture

Each village observes a tradition to build a temple for the land god, which is believed to guarantee the safety of the village. Each household builds an altar for the ancestors in an important part of the house. The villages also have a tradition to formulate village regulations and folk customs, which include a lot of items for a sound management of the village, like, for instance, crop growth management, cattle feeding management and forest management. *Fengshui* (literally 'wind and water'), which started as early as the Qin Dynasty, is popular and important to Kaizuo people's daily life. The people of Kaizuo believe that good *fengshui* fulfils wishes of safety, longevity, family prosperity, and wealth. The ancestors once built the village on a good location, surrounded by good forest, which can bring water and wind. Likewise, the villagers are very interested in finding a good location that will give them good *fengshui*. There are several *fengshui* masters, who advise on finding the right location for building houses and tombs, determining the right time for moving to a new house, and so on. They usually hold a relatively high position in the village and their advices are very important for the villagers in making decisions regarding the above activities.

Cooking unit

To have separate cooking arrangements is the starting point for a new household. The local people like to consult a *fengshui* master to tell them the right time 'to transfer the fire' from the old house to the new one. Many proverbs show the importance of fire and the relationship with the household. Examples of these are: "when there is no fire in the house, the household is incomplete"; "with a cold stove and a thin wall there is not really a family"; "mother, father is an intimate, but not as much as fire is"; or "fire is a friend, fire is a friend (repetition for

emphasis), no fire, no friend".

The villagers usually put the stove in the middle of the house and sit around it to chat and eat in winter. In winter, the stove is the centre of the house. If there is no fire in winter, guests will not stay. In summer, the stove is put in the middle of the house and is also used as a dining table. People sit and chat there, even if there is no fire. The form of the stove has been changing over the years. In the past, the villagers just dug a hole in the ground and used firewood for fuel. Later, people began to add bricks to make it stove-shaped. Fifteen years ago, villagers began to use an iron stove that keeps the heat better. From that time onward, they also began to use more coal.

Labour exchange

The Kaizuo villagers have a tradition to exchange labour during the peak season. Several households work together to finish one task, especially planting, transplanting and harvesting, first in one household, and then move on to the next household. Sometimes, more than ten households work together. The host only prepares food and provides the helpers with three meals. There is no cash payment. Since ten years, things have been changing. In the upland villages, labour exchange still exists in the form of mutual help, but in most villages, the labour exchange has ceased. Even if there is, it is only between very close relatives, for a short period of time, because the villagers now pay more attention to the equivalence of exchange. If they cannot return the help in equivalent labour, they rather pay cash. Villagers now also prefer to employ people to do the tasks, because then they do not have to provide food, which is easier. Women, especially, are in favour of hiring help because they used to be responsible for the cooking.

Festivals

While the municipality's villagers celebrate Chinese New Year, Buyi people have their own festivals, which are closely related to daily life and agricultural production. The seedling festival falls on the third day of the third month (*Sanyuesan*) of the Chinese lunar calendar[14], when sowing begins. On this occasion, villagers also pay respect and pray to their ancestors. The eighth day of the fourth month (*Siyueba*) of the lunar calendar is also called Cattle Day. People make offerings of black sticky rice to their cattle, to thank them for their drudging service during the year. The cattle are allowed to rest on this day. The sixth day of the sixth month (*Liuyueliu*) of the lunar calendar is the day on which people relax after some major land cultivation activities, and pray for good rainfall and good yields. At these festivals, the Buyi people take the opportunity to gather and talk about the enforcement of traditional village regulations. Most villagers in the same village are relatives. The Kaizuo villagers spend a lot of money on attending different kinds of activities, such as weddings, funerals, visiting a new-born child and mutual visiting during festivals. The expenditure on these activities accounts for at least 15 percent of the household budget.

[14] The Chinese lunar calendar is about one month behind the Gregorian calendar.

Gender

Men have a higher education than women, especially among the aged people in Kaizuo. Land was allocated to both men and women during the allocation period in the 1980s, but women are not the ones who inherit land, even if they get married in the same village. Men are the main decision makers in the household throughout the municipality, except for the two Buyi villages. Men and women have different tasks in agricultural and household activities. Women usually perform time-consuming tasks, while the men perform tasks requiring physical labour. Women take care of the household chores. Both men and women go to the market, but women do the actual selling. Men transport the products to the market, then go and chat with friends and relatives. They have no patience to wait for customers, while women are waiting to sell the products at a good price. Men buy goods for themselves and women buy the goods for household use.

Kaizuo men drink a lot of wine, especially in the village of Dabuyang. Elderly women make rice wine and maize wine for home consumption. Now, women make less wine because they have money to buy it, and because it has become easier to buy it in the market.

The above discussions depict Kaizuo as a mixed Buyi and Han municipality, located in a mountainous area. In some respects, the culture of the Buyi people differs from that of the Han people. Farming is still their main livelihood activity, in spite of the increasing engagement in migration, including circular migration. Rice, maize and rapeseed are the main crops here. The migrants usually are younger, married people and unmarried people. People who are older than 40 years do not commonly migrate to other provinces; their migration is circular only.

Chapter 5
Study design, data collection and analysis

In this chapter, I shall describe the methodological design, fieldwork process, data collection methods, and data analysis. Because both the temporal perspective and the cohort approach play a key role in the research, the way they were applied receives due attention. At the end of the chapter, I will present some reflections on the fieldwork experience.

5.1 Methodological design

This study consists of a longitudinal part and a cross-sectional part. Cohort analysis is used to integrate both. The basis for the study design is the cohort analysis. It implies three lines of inquiry: the cross-sectional one (vertical), dealt with by a household survey; changes through time (horizontal timeline); and the movements of the cohorts through time (diagonal timeline), dealt with by the life history method (see Figure 5.1).

5.1.1 The cohort perspective

Ryder (1965: 845) has defined cohort as "the aggregate of individuals (within some population definition) who experienced the same event within the same time interval". Since the effects of the introduction of the Household Responsibility System (HRS) – in the research area in 1980 – constitute the key theme in this study, in this research, the moment of household formation was used as the event commonly experienced by the members of the same cohort during the same time interval. The cohorts distinguished are the following:

- The 1970s cohort (Cohort 1): the households established themselves as independent units during 1970-1980 and had experienced both the collective era and the HRS era.
- The 1980s cohort (Cohort 2): the households established themselves as independent units during 1980-1990 and experienced the start of the HRS.
- The 1990s cohort (Cohort 3): the households established themselves as independent units during 1990-2000 and only experienced the HRS era.
- The 2000s cohort (Cohort 4): the households established themselves as independent units from 2000 to the present and only experienced the HRS era.

5.1.2 The household's life course perspective

As discussed in Chapter 3, a temporal perspective will be used in documenting social change and uncovering the dynamics of a process. Several kinds of time are involved: historical time, daily time, individual time, and household time or family time. In this research, the important event in historical time is the implementation of the Household Responsibility System (HRS) in 1980; daily time is about time allocation arrangements on a daily basis, using a gender perspective; individual

time is about women's life histories; and household time is based on the household's life course.

Because in present-day China, children's schooling is crucial to the livelihood strategies of farming households, the household's life course stages were defined in relation to children's schooling in the following way:

Stage 1, *formation stage* – the family consists of the husband, the wife and their child(ren). The oldest child is below school age (age seven). Usually, the new independent household is established when the first child is born, whereupon land and other properties are appointed to it.

Stage 2, *school age stage, maturing stage* or *growing stage* – the family has school age children, with the oldest child being 7-18 years of age.

Stage 3, *matured stage* – the oldest child is older than 18; the children have finished their schooling and are considered part of the household's labour force.

Stage 4, *post-parental stage* – when all of the children have their own households and have left home, the parents stay alone or stay with only one adult (married) child.

5.1.3 A combination of perspectives and methods in the study design

Figure 5.1 comprises three lines of inquiry that were used to achieve the research objectives:

1. *Horizontal*: compares the situations of the different cohorts per household's life course stage, through the selection of case studies from each cohort and focus group discussions.
2. *Vertical*: compares the current situation of the different cohorts in various stages of the household's life course and assesses socio-economic heterogeneity and social stratification, using a household survey, participant observation, key informant interviews, and PRA (mainly self-ranking).
3. *Diagonal*: follows each cohort through time and through the stages of the household's life course, using the life history method.

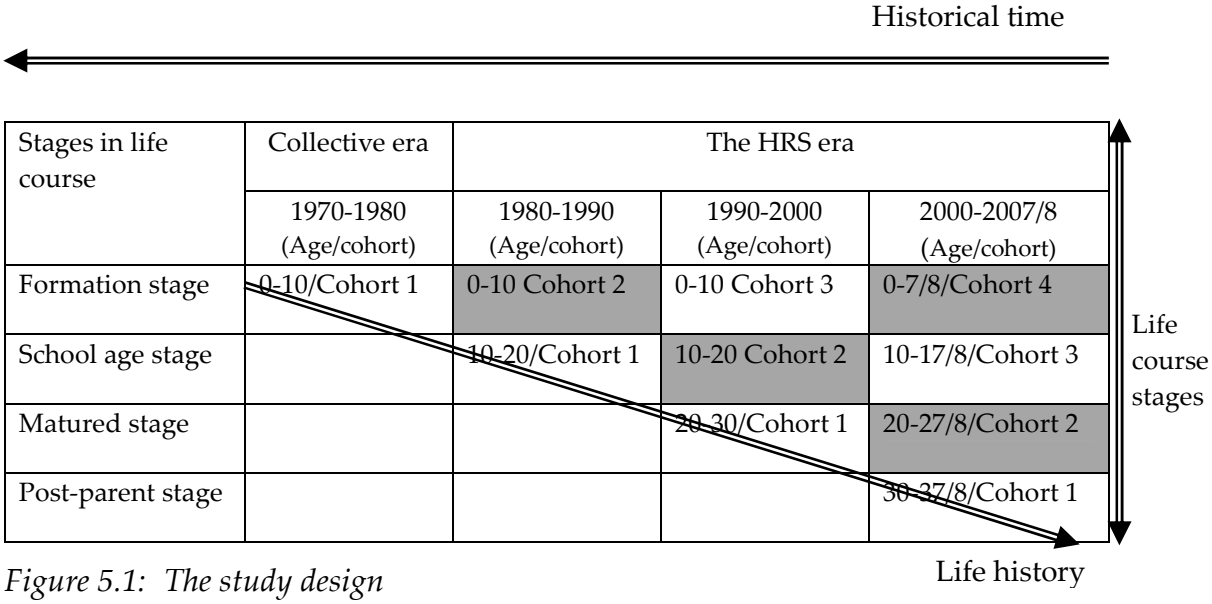

Figure 5.1: The study design

Both qualitative and quantitative methods were used for data collection and analysis. A mix of methods has been applied to capture the different dimensions and perspectives (emic and etic[15]) of the research questions, and to establish the relevant interrelationships (for example, between household composition, asset ownership, gender roles and the division of labour, and women's self-perceived responsibilities and power). Quantitative research can provide general information on a large sample that makes possible a statistical analysis, while qualitative research results provide "meanings of concepts in a given cultural context" (Scrimshaw, 1990:91). Their joint application optimizes both reliability and validity (Angrosino, 2002).

Key informant interviews, PRA, and focus group discussions (FGDs) provide information on community characteristics, extension services, general trends, and common opinions. It is difficult to ask about change through quantitative data collection. I used life histories, focus group discussions, key informant interviews, and participant observation to gain knowledge about and an understanding of the situation in the past and about the changes that have occurred.

The different methods were applied to strengthen one another (triangulation). Some methods are more specifically directed at eliciting certain aspects (FGDs and key informant interviews) or fill in the broader picture (PRA). The case study method (including life histories) and the survey method form the core of the methodological approach, addressing the experience of women of the different cohorts and the contemporary distribution of household characteristics, livelihood characteristics, and land use patterns (also capturing stratification). Secondary data and participant observation were used during the entire fieldwork process.

5.2 The fieldwork as a process

The fieldwork for the primary data collection took 15 months, from August 2007 until September 2008. The detailed fieldwork activities are presented in Table 5.1.

[15] The emic perspective is that of the actors themselves, the etic one that of the observers.

Table 5.1 Time schedule for fieldwork activities

Activities	2007							2008						
	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Exploratory field visit														
Secondary data collection														
Refining proposal														
Pretesting questionnaire														
Revising questionnaire														
Interview, informal FGDs														
Case study														
Household survey														
Data input, processing, and analysis														
Formal FGDs														
Verifying, collecting missing or additional data														

Although I had known the research area for ten years, it was the first time I conducted systematic research at the household level there. In July 2006 and March 2007, I did preliminary fieldwork to fine-tune my proposal. I collected secondary data and conducted preliminary interviews and focus group discussions.

During August-September 2007, I began my formal fieldwork. Firstly, I went to the field and had discussions with local township officials and villagers to finalize the selection of villages. September-October is harvesting season in the research area. For this reason, I did not have many meetings with villagers in August 2007 and September 2008. Instead, I collected secondary data about agricultural technology delivery mechanisms, government policies, and government projects in the municipality. At the same time, I interviewed key municipal officials, extension workers, and village leaders.

During October-December 2007, some villages finished their harvesting so I held a pilot survey with ten households to test the questionnaire in the two main research villages. I had discussions with villagers about the ranking of households in the research area in terms of income, landholding, and other socio-economic factors. I also conducted women's life histories interviews and informal focus group discussions. I mainly focused on revising the questionnaire and preparing for the household survey in January 2008. I did some informal interviews and case studies as well.

In January 2008 and February 2008, I trained five bachelor students majoring in rural regional development as enumerators, who then conducted the household survey together with me. We made use of the students' semester break, which enabled them to go with me. That period also proved to be a good time to meet migrated villagers coming home for the celebration of the Spring Festival, and interview them. During the process, I discovered that there were what I shall call 'migrated households' (husband and wife, bringing the children along or leaving them at home with relatives) that came back for the Spring Festival. I

formulated an additional questionnaire and selected 24 households for a survey (see Chapter 7).

In March 2008, I continued my life history recording and case study interviewing. I also began to input the survey data in the computer and to process the qualitative data. In April 2008, it was sowing time for the villagers and I did not go to the field, but continued the data input process. In May 2008, I carried on with my life history recording and case study interviewing. My promotor visited the research site, discussed my progress, and provided suggestions for the remainder of the fieldwork. We also planned the detailed schedule for the next four months.

During June-September 2008, I tried to find some secondary data I missed and held key informant interviews with former village leaders and elderly people. I conducted 14 focus group discussions: two mixed group discussion; ten female group discussions; and two male group discussions (see Section 5.3.5 for the topics discussed and the composition of the groups). I also finished incomplete interviews and case studies and checked for missing data. These were the toughest months for me to finish verifying my questionnaire because I found some data were missing, something I did not check very well in the survey period. Participant observation was integrated in the whole process. I reflected on my data, did the coding of data, and carried out some qualitative data analysis.

5.3 The data collection

I began my formal data collection after I went back to China, in July 2007. As I mentioned before, participant observation was an important method for me to collect data in the field, since I had already been working in the research area for ten years and the local people had truly accepted me. They were not easily disturbed by my presence, even when I brought along strange company. They would greet me and continue to do what they were doing. I held many informal interviews with them, in which they would sometimes give me very confidential information. I took field notes almost everyday. I also could compare the situation with that of ten years ago, when I worked in the area on a project. I lived with the local people and could observe their daily lives, the division of labour in household work and agricultural production, animal husbandry, marketing, weddings, and other social events. I accompanied the women to look after cattle grazing in the hills. I went to the public spot under the big tree for social village activities, where villagers get together to chat and outside traders come to do business.

Even though I was very familiar with them, I still tried my best to make them comfortable and not feel disturbed when I recorded my conversations with them. I found it worked well to use the cell phone to record interviews and discussions. The merit of this method is that the interviewees do not notice that you are recording and will not be distracted by it. After the interview and discussion finished, I told them that I recorded the interview by cell phone and solicited their feedback. None of them minded my recording the conversations, but some said that their lives were not interesting or important enough for me to record their stories so carefully.

5.3.1 The household survey

The household survey was conducted in seven villages. The questionnaire (see Annex 1) focused on obtaining information about the current situation of the households. I mainly investigated household resources, livelihood activities and gender roles. I included 160 households in the household survey[16]. In addition, 24 migrated households (see above) were interviewed as well about their motivation for migration, their plans for the future, the work they were doing, and the management of their land in the village. The interviewees mainly were household heads.

Sampling

As mentioned in Chapter 4, the municipality of Kaizuo in Guizhou province was chosen as the research area. Agro-ecological cluster sampling was conducted first, after which the sample was stratified according to cohort in each agro-ecological cluster. From an agro-ecological perspective, there are two kinds of villages in the municipality of Kaizuo: upland villages and lowland villages with paddy fields. The agro-ecological differences are important because the division of labour, migration, land use, and livelihood strategies are different in these two ecological systems. The upland households mainly grow maize, while those in the lowland area grow rice. The lowland households have relatively easy access to markets, while the upland households have not. Water is relatively abundant in the lowland area and very scarce in upland areas. The level of education is higher in the lowland area, because the villagers can access schools easily. The lowland households use coal as the main source of energy, while the upland households use fuel wood. The households in the lowland area have better access to government development projects, while those in the upland areas have more opportunities to get support from poverty-alleviation projects.

I selected 160 households: 80 in each agro-ecological cluster. In addition, I also surveyed 24 migrated households. Seven villages were selected for the survey, as explained in Chapter 4: Dabuyang, Guntang, and Xiaobuyang in the lowland area, and Dongkou, Xiaozhai, Xingzhaiyuan, and Dabang in the upland area. The main research villages were Dabuyang and Dongkou. The other five villages were added to complete the sample. The numbers of households sampled were 49, 41, 41, and 29, respectively, for the 1970s, 1980s, 1990s, and 2000s cohorts. Based on the design, there should be 40 households in each cohort. I tried to balance the number of households in each cohort, so as to make the data analysis more powerful. However, it was difficult to find 40 households involved in agriculture for the 2000s cohort, because there is a lot of migration in this cohort. Hence, only 29 households represent this cohort in the survey. The 1970s cohort is represented by 49 households. The details of the composition of the sample are provided in Table 5.2.

[16] 160 households include the 10 pre-survey households, but I had to get some answers which were missing in the pre-questionnaire.

Table 5.2 Sampled households of each cohort

Villages	1970s cohort households	1980s cohort households	1990s cohort households	2000s cohort households	Total
Dabuyang	17	12	11	9	49
Guntang	10	4	5	5	24
Xiaobuyang	3	1	3	0	7
Dongkou	9	13	16	8	46
Xiaozhai	3	5	5	5	18
Xingzhaiyuan	3	5	1	1	10
Dabang	4	1	0	1	6
Total	49	41	41	29	160

During the survey, I found some couples who had migrated in the past year and had come back for the Spring Festival. This raised the issue of the characteristics of such migrated households[17]. To compare them with the other households, I randomly selected 24 migrated households: 5 households from the 1980s cohort, 8 households from the 1990s cohort, and 11 households from the 2000s cohort. No migrated households were included in the 1970s cohort. The questionnaire can be found in Annex 2.

Training and working with enumerators

I spent three days to train one enumerator in advance, because he was available. We did the pre-survey together. One week later, the other four enumerators were trained and joined the survey. The enumerators were majoring in rural regional development and all had rural experience. After I trained them, I asked them to do the pre-survey and clarified some questions. Every evening, we shared the survey results and reflected on these, while we sat in front of the fire stove to get warm. We found the discussions to be very helpful for the survey work the next day. We reached agreements when there were different understandings about the survey questions.

5.3.2 Secondary data collection

I already had some secondary data. Before I collected the rest of the secondary data, I went through those I already had and collected additional materials on local agricultural activities, government policies, agricultural extension mechanisms, and recent data on the municipality's socio-economic status. I also got the data from the Second Chinese Agriculture Census, finished in Kaizuo in 2007. I studied these materials before I conducted the survey to obtain a clearer picture of the seven sampling villages, and I also used the materials to check the reliability of my survey data.

[17] A migrated household means that both husband and wife have migrated with or without their children.

5.3.3 Key informant interviews

I held 31 key informant interviews. I interviewed three government officials, two (former) extension workers, 15 (former) village leaders, three (former) female village leaders, one unofficial village leader (*zhailao*), and seven elderly people. I selected the municipal officials who had been working in the municipality for many years. All these interviewees told me about the current situation. Some told me about the situation in the past and during the collective era. I also conducted interviews on the local culture with these interviewees. I conducted key informant interviews individually, but sometimes two or three people attended the other interviews. The detailed interview outline can be found in Annex 3.

5.3.4 Self-ranking

I did self-ranking twice, once in Dongkou and once in Dabuyang. Villagers got together during my interviews and if more than five participants were present, I seized the opportunity to have them perform a self-ranking with regard to their socio-economic status. The results of the self-ranking helped me to understand the heterogeneity in household status. The villagers ranked the households based on income, housing, livestock holding, trucks, and landholding. They did the ranking with the aid of an integrated evaluation of the above indicators. I had people ranking themselves in the two main research villages (Dongkou and Dabuyang). Three levels of household wealth were distinguished in the self-ranking discussions: poor, middle, and rich households. In the survey, I also asked each household to evaluate its economic position in the village according to the five categories given in the questionnaire (see Annex 1).

5.3.5 Focus group discussions (FGD)

I held 14 focus group discussions (FGDs). Focus group discussions were organized for each cohort in the two villages. Each group should preferably include no more than 12 persons ((Krueger and Casey, 2000). In this research, each FGD included five to seven persons. The sessions usually took half a day. Four FGDs were organized for male groups in the 1970s cohort (cohort 1) and the 1980s cohort (cohort 2) each, and four FGDs were set up for female groups in the same cohorts. Some participants were randomly selected within the same cohort, some after consultation with village leaders because of the rich information they might provide. We discussed the changes they experienced in the different stages of their life course. The 1970s and 1980s cohorts discussed livelihood, land use, food security, and gender issues in both the collective era and the HRS era. Four FGDs were held with the 1990s (cohort 3) and 2000s (cohort 4) cohorts each. With these participants, their livelihood, land use and gender issues in the HRS era were discussed. Two FGDs with mixed people of different ages and gender were conducted in Dabuyang village and Dongkou village to compare opinions of men and women of different ages with regard to the process of social change during the past 30 years. The issue of female-headed households was discussed in this group as

well. Mixed groups are not easy to manage ((Krueger and Casey, 2000), but I tried my best to moderate and avoid conflicts in the discussions. Table 5.3 lists the topics of the FGDs.

Table 5.3 Topics for the focus group discussions

Co-Horts	Stage 1	Stage 2	Stage 3	Stage 4	General
1 A B C D	1. Marriage & HH formation 2. HH composition & residence 3. HH portfolio, land use, cropping patterns 4. Food security situation 5. Gender: division of labour, decision-making 6. Importance of social resources (relatives, neighbours, community)		7. Migration impacts		Changes in social stratification in the past 30 years
2 A B C D	1. Marriage & HH formation 2. HH composition & residence 3. HH portfolio, land use, cropping patterns 4. Food security situation 5. Gender: division of labour, decision-making 6. Importance of social resources (relatives, neighbours, community)		7. Migration impacts		Changes in social stratification in the past 20 years
3 A C	1. Marriage & HH formation 2. HH composition & residence 3. HH portfolio, land use, cropping patterns 4. Food security situation 5. Gender: division of labour, decision-making 6. Importance of social resources (relatives, neighbours, community)	7. Migration motives & impacts			Changes in social stratification in the past 10 years
4 A C	1. Marriage & HH formation 2. HH composition & residence 3. HH portfolio, land use, cropping patterns 4. Food security situation 5. Gender: division of labour, decision-making 6. Importance of social resources (relatives, neighbours, community) 7. Migration motives & impacts				Situation with regard to social stratification

Note: The FGDs are numbered as FGD 1A (cohort 1, group A, the same in the following), FGD 1B, FGD 1C, FGD 1D, FGD 2A, FGD 2B, FGD 2C, FGD 2D, FGD 3A, FGD 3C, FGD 4A, FGD 4C. Two focus group discussions with mixed cohorts and gender were conducted in the villages of Dabuyang and Dongkou, covering the topics listed above, which were numbered as FGD M1 and FGD M2.

Legend:

A = upland women B = upland men C = lowland women D = lowland men

Stage 1 = formation stage: oldest child below school age.

Stage 2 = growing stage: oldest child aged between 7 and 18.

Stage 3 = matured stage: oldest child older than 18.

Stage 4 = post-parental stage: all children have their own household.

5.3.6 Life history

I documented the life histories of eight women of the 1970s, 1980s, and 1990s cohorts (see Table 5.4). I selected them randomly in the villages of Dabuyang and Dongkou. I directly went to their houses and checked whether the woman had time or not. If she had time at that moment and would like to talk to me, I stayed with her and conducted the interview. I found most of the women to be generally open and talkative. The fact that I had already communicated a lot with the women in the villages at the time I was involved in a rural development project there, probably helped to gain their trust. They liked to tell me their stories and share their experiences with me.

Table 5.4 Characteristics of life history interviewees

Cohorts	Dongkou village	Characteristics	Dabuyang village	Characteristics
1970s cohort	Ying	53 years old, 4 children, matured stage	Fen	55 years old, 4 children, post-parental stage
	Ming	55 years old, 4 children, matured stage	Zhen	61 years old, 4 children, matured stage
1980s cohort	Xiao	40 years old, 2 children, matured stage	Xiu	59 years old, 4 children, matured stage
			Zhi	52 years old, 3 children, matured stage
1990s cohort	Yan	47 years old, 3 children, matured stage. Married in earlier 1980s, but household division was in 1990s when children grow up		

In order to better understand the different households and have in-depth discussions about the life histories, I chose four households of different cohorts to stay with for a shorter or longer period of time: one household of the 1970s cohort and three households of the 1980s cohort. I also shared meals with many households and tried to talk freely with the women during meals.

Conducting life history interviews is time-consuming. I had to go back to the same interviewee several times to finish the whole story. Some interviewees talked a lot and seemed interested in telling me everything. I found it difficult to cut their talks short and tried my best to draw them to my topics. I also did some preliminary analysis after I finished an interview, to prepare the follow-up interview with the same person. Some husbands also joined in the interviewing process and gave additional information, but this did not happen often.

5.3.7 Case study

Seven case studies of households (including migrated households) were conducted in three villages, apart from the eight life histories: three for the 2000s cohort, two for the 1990s cohort, one for the 1980s cohort, and one for the 1970s cohort. Of these seven households, four households are from the village of Dabuyang, two from Dongkou village, and one is from the village of Guntang. They were selected for

the purpose of collecting in-depth and holistic data, using cohort and migration as selection criteria. The validity and applicability of the case study approach is long established in anthropology, sociology, and history, as well as in other fields of study. Case studies go beyond reporting events and details of experiences. Specifically, the researcher attempts to explain how these represent what we might call "webs of meaning", the cultural constructions in which we live (Geertz, 1973). As Kessinger (1972: 314, 315) notes, "The findings of case studies are significant for historians and social scientists on at least two levels: (1) They form an important source of information, insights, and conclusions that can be used in more general studies; and (2) the unit of study provides a "laboratory" within which one can study representative historical processes which affect all such units in a given place to one degree or another […]. Stein (1960) […] argues convincingly that the concern for the case study's representativeness has been largely misplaced. The crucial consideration is the representativeness of the process of change, not of the unit of study".

The interviewees included both men and women. Sometimes, I interviewed only one person, both husband and wife. I found it difficult to find young husbands to interview. The stories of all households will be included in the following chapters. When I did the case study, I talked with the interviewees in public places, in the fields or in their houses. Sometimes, I joined two people chatting and did two case studies. Apart from the life history interviews, I also stayed for a short period in three different houses: one household of the 1980s cohort, one household of the 1990s cohort, and one household of the 2000s cohort. I observed and discussed their livelihood activities, child care, daily life, migration, and gender issues, both in their daily life and in different life stages. I listened to their stories about the life experiences that had impressed them most. The main characteristics of these households can be found in Table 5.5; the interview outlines of the case studies in Annex 3.

Table 5.5 Characteristics of the case study households

Village and HH number of case HHs	Characteristics of main interviewees (households)				
	Sex	age	Number of children	Migration (Yes/No)	Characteristics
2000s cohorts					
Qi (DO HHs 1)	F	27	2	Y	Migrated household. Wife migrated first. One child was left in the care of grand-mother and land was rented to brother-in-law.
Di (DA HHs 1)	F	35	3	Y	Migrated before and after this Spring Festival. Three children were left in the care of grandparents.
Chang (GU HHs 1)	M	26	1	Y	Migrated household, land and child are left for parents to look after. Landholding is small.
1990s cohort					
Xia (DA HHs 2)	F	43	2	Y	Migrated last year. Husband migrated many years ago and just came back to conduct agriculture last year.
Shenbin (DA HHs 3)	F	31	2	N	Migrated household, just returned be-cause of the woman's illness. Children were left in the care of parents-in-law. Land is rented out.
1980s cohort					
Xue (DO HHs 2)	M	45	3	N	Doing local circular labour. Two children migrated to work in a factory.
1970s cohort					
Lan (DA HHs 4)	F	56	4	N	All sons migrated and she is taking care of two grandsons.

Note: DA = Dabuyang village; DO = Dongkou village; GU = Guntang village.

5.4 Data analysis

Both the quantitative and the qualitative data analyses are used in this research to optimize reliability and validity. A preliminary quantitative data analysis was done first to get the general picture of the research data and the current situation of the survey households. This provided the basis for the qualitative approaches and the further in-depth analysis. Chapter 7, in particular, is mostly based on the quantitative data analysis; the other chapters are mostly based on the qualitative data analysis.

For the quantitative analysis, I used SPSS 15.0 software (SPSS-IBM company) to carry out the regression and correlation analysis, the cross tabulations, and the analysis of variance. Household formation year and gender constitute important independent variables in most of the quantitative analysis. I took pictures of all the

questionnaires to make it easy for me to go back and check unclear data when I ran the analyses, which was really helpful. It was also useful because, in this way, I kept the notes the enumerators had put on the questionnaires. While in the field, qualitative data collection and analysis were overlapping and recurrent. Data analysis was done in a continuous and systematic way. I took field notes and stored them in my laptop almost everyday. I tried to code them roughly in the field, to check for missing data. The focus group discussions were recorded by using my cellphone and I always listened to the recording immediately after the discussion before I processing them and conducting another discussion. I always found some points that needed to more attention in the next focus group discussion. I preliminarily coded and analyzed the qualitative data by using my laptop. For case studies I took notes and did the preliminarily analysis in the field. The life histories required more than one visit each. I structured the questioning chronologically according to life course stage. Sometimes, I took written notes in the field, sometimes I directly wrote them into my laptop. I analyzed the secondary data I had before starting the field work. Most coding was preliminarily done in the field to guide the collection of in-depth data. Later, I recoded some data in the further data analysis process.

5.5 Issues in the research process

Hospitality

The villagers are very hospitable. I was always invited to stay and have meals with them. In order to gain a better understanding of the different households and have in-depth discussions about their life histories, I chose seven households to stay in: one household of the 1970s cohort, four households of the 1980s cohort, one household of the 1990s cohort, and one household of the 2000s cohort. I also had meals in many other households, and tried to talk freely with them during meals and work. I found this was an important way to get to know people's daily lives and their personal stories.

When I wanted to start with the survey, the Spring Festival was approaching and almost every household was happy to slaughter a pig to celebrate it. When we did the survey, we were invited to join the people in special meals, prepared from the slaughtered animals (*shazhufan*) with them. Each household invites relatives and friends to come to slaughter the pig and eat that special meal together, and the researcher and enumerators were invited as well. Because the survey lasted longer than expected, we were unable to conduct interviews at the time the people were having the *shazhufan* meals. Interviewing had to be done during the meal or the meal preparation.

When I conducted interviews, these always gave rise to informal group discussions. When the villagers came and saw that I was doing interviews, they liked to join the discussion. This provided an opportunity to discuss various issues, but it was difficult to raise more personal issues at such occasions.

Keeping an open mind

Because I had worked in the area before, I considered the disadvantages of

knowing the two main research villages quite well. My familiarity brought with it the risks of prejudice, taking matters for granted, or overlooking important emergent phenomena. Therefore, I did not presume to have all the answers during the fieldwork; I tried to observe and ask questions very carefully, and to keep an open mind.

Pre-coded categories in the questionnaire

I met some problems when composing the questionnaire. I pre-coded categories codes based on the experience in the villages of Dabuyang and Dongkou, where I carried out the pilot of the survey. However, in the other villages, some categories were different, e.g. with regard to crops, employment, livestock, and so on. For this reason, the enumerators met problems in the survey process in the other villages, which they solved by using the category of "other", without further specification. Because the specific content of these categories was important, in a number of cases, I had to ask the enumerators or I had to go back to the village myself to check it.

Electricity shortage

During the survey period, I planned to run a daily check in the field on the returned questionnaires for any incompleteness or mistakes. However, there was a period of severe frost (people could not recall it had been that cold for fifty years). The frost affected the electricity supply and led to power failure. There was no light in the evenings and I could only do the checking of the questionnaires during the daytime. Yet, I also had to go with the enumerators to coordinate their work in the village, because the Spring Festival was approaching and the villagers were very busy. I had not foreseen that checking unclear data with the enumerators and the villagers would be so time-consuming. It is very important for the researcher to check questionnaire data in the field and ask the enumerators to get clear answers for every question.

Keeping the research on track

Some interviewees and participants in focus groups talked a lot; I could not coax them back to my topic and was forced to follow their memory flow. It was not easy to balance the open questions and the semi-structured questions. Time constraints were a problem. Conducting life histories is very time-consuming and one interview was not sufficient to get the whole story. The focus group discussions lasted longer than expected because there was a lot to discuss. Sometimes, participants diverted from the topic and I had to steer their conversation back to the focus of my research. I did the survey in January, when the Spring Festival was approaching. Since many migrants came back to celebrate this festival, I had time to talk with them and carry out an additional survey (see above). It was difficult, however, to conduct this survey at a time when many villagers were busy either preparing a trip to visit relatives and friends, or organizing the reception of relatives and friends in their own homes.

Chapter 6
Women's life stories and social change

This chapter starts with a discussion on the relationship between cohort and life stage. By following the stages in the life course of different cohorts, I will be able to show how women of different cohorts experienced the different phases in their household's life course in different times. In the next section, I will look more closely at marriage and household formation in the study area, now and in the past. Subsequently, the topic of female-headed households will be discussed, because there are relatively many of them in the study area and the incidence of female headship of households seems to be increasing. Labour migration plays an important role in this trend. The core of the chapter is formed by the presentation of the life histories of eight women, based on extensive interviews with the women concerned. The chapter concludes with a general discussion of the impact of social change on women's lives, on the basis of the findings presented here.

6.1 The relationship between cohort and life stage

As discussed in Chapter 5, there are four cohorts and four life course stages considered in this research. The household's life course starts at the formation of the household and ends with the founders' exit (Pennartz and Niehof, 1999:177). Three kinds of categorization of households can be distinguished when applying a life course perspective: household categories depending on marriage year; household categories according to household formation year; and categories according to the phase in the life course. In rural China, the newly married couple at first usually lives with the husband's parents. They establish their own independent household after the birth of the first baby, usually one or two years after marriage. After the birth of the first child, the household start its life stage 1.

Table 6.1 Characteristics according to cohort and life stage

Cohorts	*HHs based on marriage year*	*Percent (%)*	*HHs based on household formation year*	*Percent (%)*	*Life stage 1*	*Life stage 2*	*Life stage 3*	*Life stage 4*
1970s cohort	50	31.3	49	30.6	-	-	-	7
1980s cohort	48	30.0	41	25.6	-	-	85	-
1990s cohort	36	22.5	41	25.6	-	42	-	-
2000s cohort	26	16.3	29	18.1	26	-	-	-
Total HHs	**160**	**100.0**	**160**	**100.0**	**26**	**42**	**85**	7

Source: farm household survey, 2008.

The dates of the marriage, the foundation of an independent household, and the phase in the life course do not necessarily coincide. Hence, the numbers are different (see Table 6.1). As discussed in Chapter 4, Buyi women follow the tradition of *zuojia*, which requires a woman to stay in her parental house after she gets married, usually for two to five years. The *zuojia* tradition is still adhered to

until now, but women now stay at home for a shorter period, or even go back to their natal household for only one day. Another reason for the non-coincidence is that some households establish their independent status only after their children are several years old. In that case, a household could have had the first child during the 1970s, but established itself independently in the 1980s. In this research, the households in the sample are from different cohorts and are in different stages of the life course. Households based on formation year that belong to the 2000s cohort, 1990s cohort and 1980s cohort coincide with, respectively, stages 1, 2 and 3 in the life course. The majority of the households based on formation year of the 1970s cohort, on the other hand, are not in stage four, but in stage three of the life course. In this research, the analysis is based on household formation year because household formation is a key variable in the study. Furthermore, in this categorization the numbers are more balanced, which allows for a more powerful analysis. For the focus group discussions, the selection of the participants was also based on the year of household formation.

6.2 Marriage and household formation

Traditionally, marriage used to be arranged. A matchmaker (usually a woman) negotiated between the two families. After both sides agreed, there was an engagement. Husband and wife would usually meet once or a few times prior to the wedding. As a rule, the matchmaker introduced the relatives, friends or nearby villagers whom the family already knew very well. After the introduction of the Household Responsibility System (HRS), young people began to get acquainted through different activities and opportunities, which is why arranged marriage is decreasing. The matchmaker, however, is still required for the preparation of the marriage. She is asked to go through the traditional engagement process, which means that she talks to both sides and facilitates a successful engagement. In our sample, during the past ten years, there has been no arranged marriage.

The new couple normally lives with the husband's parents. The household property is divided among the sons. Household division usually takes place after the birth of the first child (see Chapter 4). If there is no son, it is customary that the eldest daughter marries a husband who would like to live with the wife's parents. He is a s*hangmenlvxu.* In the past, such a man was looked down upon by the villagers. In this case, the wife is the household head. There are several kinds of female-headed households in the study area, beside the *shangmenlvxu* case. The following section will describe female-headed households.

6.3 Female-headed households

In this study, it could be observed that the village of Dabuyang has significantly more female-headed households than other villages. When I was there three years ago, women were very powerful in Dabuyang compared to the women in other villages. Dabuyang women always joined the community activities and were famous for their power and capability. Men were said to quarrel, while women were thought to have more collective spirit and the ability to reach an agreement

more easily. Men also admitted that most Dabuyang women head the household. Sometimes, women attended the meetings and asked men to withdraw because they got drunk and did not pay enough attention to the discussions. Dabuyang village is a Buyi village with 64 households; only one household is not Buyi. Weng (1995) did research in this village and has indicated that Buyi women have a stronger position than women in the nearby villages, even though their position is still lower than that of men.

6.3.1 Female-headed households in the literature

Household headship can be conceptually distinguished as dual-headed, male-headed, and female-headed. Female-headed households usually imply the absence of adult men, while in male-headed households, usually one or more adult women are present (Bruce and Lloyd, 1995). Female-headed households include a *de jure* type of female-headed households and *de facto* female-headed households. The first type of households generally has no husband present. *De jure* female household heads are widows, or deserted, divorced, separated or single women. The *de facto* female-headed household means that the husband is incapable of supporting the household (Firebaugh, 1994). Chant (1997) indicates that female heads in this type of household control the income for household use (whether from earnings, remittances, or transfer payments). Firebaugh (1994) says that female-headed households emerge because of women's increased income and the household survival strategies to support male migrants. Firebaugh (1994) also mentions that female-headed households are very heterogeneous and that policies should respond to these differences. Female-headed households emerge because of gender-selective migration and many other factors (Chant, 1997). The number of female-headed households is increasing and will continue to do so, leading to women's poverty (Chant, 1997; Haviland, 2002).

6.3.2 Female-headed households in the study area

In the survey, I distinguished between male-headed households and female-headed households. Most female-headed households are *de facto* female-headed, meaning that women make the decisions in the household, even though men are still registered as the household head in the *hukoubu* registration (see Chapter 2). Only a few households are registered as female-headed (that is, as *de jure* female-headed) households. If women are the *de jure* household head, they are also the *de facto* household head. In the sample, we found that there are three situations in which women are registered as household head (*de jure* female-headed household): the husband is a government official; the woman is widowed; or a case of s*hangmenlvxu*. Government officials have an urban registration certificate; they are not registered as rural *hukou*. These husbands have their own urban *hukoubu*, but their children are required to follow their mother's registration as rural citizens. Widows and the wives of *shangmenlvxu* normally register as household head according to the local tradition, as indicated above. The number of female-headed households is significantly higher (10% level) in the village of Dabuyang than in the other villages (see Table 6.2).

Table 6.2 Household types in Dabuyang village and the other sampled villages.

Headship	Dabuyang (N=49)		Other villages (N=111)		Total (N=160)	
	Freq	%	Freq	%	Freq	%
1. Male-headed	27	55.1	77	69.4	104	65.0
2. Female-headed	22	44.9	34	30.6	56	35.0
2.1 *de facto*	19	38.8	31	27.9	50	31.25
2.2 *de jure*	3	6.1	3	2.7	6	3.75

χ^2=3.04, p= 0.081

Other villages are: Guntang, Xiaobuyang, Dongkou, Xiaozhai, Xingzhaiyuan, and Dabang.
Source: farming household survey, 2008.

In the municipality of Kaizuo, female heads of households are called female *dangjia*. The word *dangjia* means making decisions and working as the manager of the household. Female-headed households are the households in which women are the main decision makers regarding household chores, agricultural production (including the buying of seeds), animal raising, gift giving, borrowing money, taking care of elderly people and children, and marketing. Yet, for most female-headed households, the most important events for the household are still under the control of men, such as building a house, or arranging wedding ceremonies and funerals.

During the focus group discussions (FGDs) and case study interviews, people said that men do not object to women's management of the household and think it is the women's domain, but they expect women to inform them and listen to their suggestions. Men know that women usually make good decisions. Men give their earnings to their wife to manage. This does not imply that men do not make decisions at all; they just make fewer decisions. Women in female-headed households told us that they are often very tired.

Older women in Dabuyang said that more women would like to be a *dangjia*. I was told about a Buyi legend, according to which women are clever and have to wear an apron[18] to prevent them from being too clever. If women do not wear an apron, men worry about the women becoming too clever. For this reason, Buyi women have been required to wear an apron to this day. Older Buyi women make the apron themselves and wear it every day.

Dabuyang women have an important voice in some community activities. In the collective era, there even once was a female village leader in Dabuyang. Nevertheless, women are still not likely to become village head. In informal group discussions, women mentioned that there is a Buyi saying: the male chicken is used as sacred food for the gods and not the hen. This means that men attend formal and important events and women do not. Likewise, the number of women attending community activities is still limited, even in Dabuyang village.

According to the FGDs and interviews, traditional culture allows women more freedom of thought and action in Dabuyang village compared to other villages. This adds to their strength and capabilities, as has been confirmed by Gu's

[18] Apron strings such as worn by Buyi women are displayed on the cover of the thesis.

study (2001). Ge (2003) mentions that in Buyi history, men were working in the military and women were working in the field, managing the agricultural activities and the household. According to a number of authors, the *zuojia* tradition (see above) incorporates matrilineal characteristics; women's higher position can be traced back through the *zuojia* phenomenon (Chen, 2003; Chen, 2006; Wu, 2006; Zhang, 2002b). These researchers also found that women still stay in their parent's house and do not want to live in their husband's house, because they want to maintain this matrilineal tradition. Wu (2006) also mentions that things are changing but traces still remain. In the Buyi research villages, the change is apparent in the fact that the *zuojia* period has become shorter. In Dabuyang village, men like to drink and gamble. Most men consume local wine twice a day and usually get drunk. Some younger women also begin to gamble, but they still make decisions and manage the household activities. It is their responsibility and they do not trust men to do well.

During my field research, the villagers mentioned that more women are becoming household heads because of male out-migration. The survey results show the high number of female-headed households in the village of Dabuyang as well as in other villages (see Table 6.2). A traditional Chinese proverb describes the household division of labour as 'men make decisions about the field and women make decisions about the household's chores. Now, women make decisions and manage both field and household. FGDs also show that women make more decisions since the implementation of the HRS than in the collective era. During the collective era, women used to follow the village leader's decisions and rarely joined in the decision making. The HRS and migration provided opportunities for women to become household head. *De facto* female-headed households steeply increased in the past ten years. The mixed group discussions (FGD M1 and FGD M2) in the villages of Dabuyang and Dongkou showed that women are thought to be stronger than men. Both men and women said: "society is changing; women are more powerful nowadays and want to control men and make the decisions about managing money".

Migration provides women with the opportunity to make decisions. Their urban work experiences can empower female migrants and enable them to become potential agents of social change in rural areas (Fan, 2004), even if they still follow tradition and take care of children (Murphy, 2004). Chen (1996) found that women make more decisions because they have to, since the husband is absent. Women access and control more resources, which gives them more power to make decisions. Murphy (2004) has found that left-behind wives assume responsibility for work tasks outside agriculture, leading women to acquire new skills or take up new activities. This, in turn, enhances their visibility. Capacity building is important to make women stronger, something in which intervention projects play an important role. The CBNRM project emphasized the involvement of women in natural resources management and always asked women to attend project activities. In the group discussions, women said they felt strong. They stated that it is a good thing that men go off to work elsewhere, because it allows women to make their own decisions, without the need to have discussions and quarrels with their husbands. However, the women also mentioned that when the husband has migrated, it is difficult to discuss important decisions, such as building a house.

6.4 Women's life stories

The above discussion demonstrates the changes seen in the rural household in terms of gender and livelihoods. In order to understand the changes in terms of gender, livelihood, and the household after the introduction of the HRS, especially since the increase of migration, eight life stories are presented in the following section. I interviewed four women from the 1970s cohort and three from the 1980s cohort from October 2007 to July 2008. In one case (in section 6.4.5), the household was established in the 1990s, although the couple married in the 1980s. Zhi, Xiu, Fen and Zhen are from the lowland paddy field village of Dabuyang, while Yan, Xiao, Ming, and Ying are from the upland village of Dongkou.

6.4.1 Life story 1

Name: Zhi = EGO
Age: 52
Cohort: 1980s
Other household members: a husband, two daughters, one son
Household headship: *de jure* and *de facto* female-headed household
Village: Dabuyang

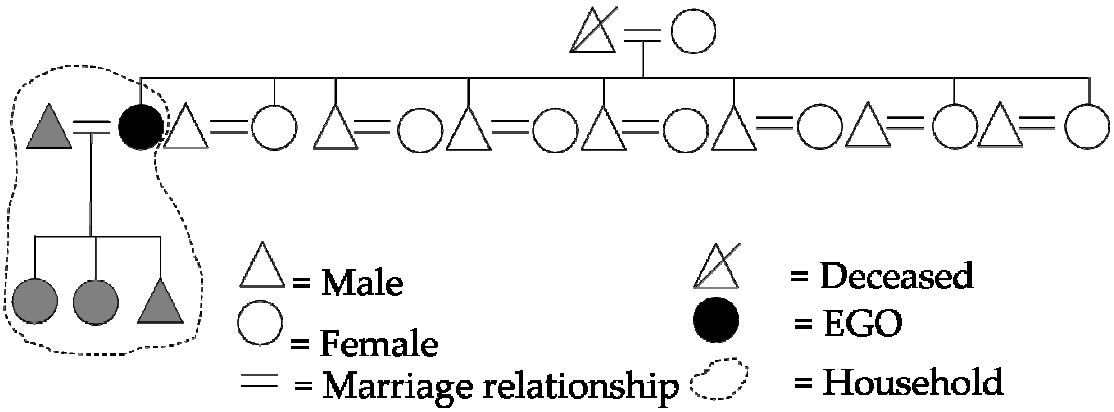

Figure 6.2: The genealogy of Zhi

Zhi's introduction

My house is at the gate of the village. People have to pass my house if they want to go into the village's main residential area. My husband is a teacher and works in a primary school eight kilometres away. He travels back and forth every day by driving a motorcycle. In the registration certificate, - *hukoubu* -, my name is registered as the household head because my husband has a separate urban identity (*hukou)* registration and he has no land in the village. My children and I have a rural *hukou* registration according to registration regulations. Now, the oldest daughter has an urban *hukou* because she has a formal job. In reality, I am also the household head, because I make decisions about everything. My life is easier, even though we only belong to the middle-level households in the village.

More young people migrate to earn higher salaries than my husband's salary. But in the past, his salary was higher than an income from agriculture would have been, and our household was once one of the richest ones in the village.

Formation Stage

Getting married and delivering babies

I got married in 1985 when I was 29 years old and gave birth to our first daughter in 1986. My hometown is the neighbouring village of Guntang, one kilometre away. I am the oldest child in my family and my mother wanted to marry me off in a nearby village, so I could take care of my younger siblings, who were still at school. My parents also expected me to look after them in their old age. My father was an employee at Changshun Agricultural Bank. My parents wanted to marry me to a rich husband, because they were having a hard time with eight children to raise. My husband is a primary school teacher and has a stable salary. He and I were introduced to each other and then we were engaged.

I got married and stayed in my parents' house *(niangjia)* for one year (*zuojia*). I began to live with my husband and parents-in-law in 1986, after I became pregnant. I had to cultivate the land with my parents-in-law, because I had no land of my own and my parents-in-law arranged everything. I just followed their instructions. My husband came back every day from his work eight kilometres away, but he did not know much about agricultural production. It was I and my parents-in-law who did this together. My husband gave his salary to his parents to control. Additionally, I made rice wine to sell for more income because I had learned this from my mother. We tried hybrid rice in 1987 and got high yields. Later, my husband also began to learn how to plough. When he was doing agricultural work, he always tried to make the work less arduous by applying innovative methods.

My parents-in-law were not happy with me when I delivered two girls, the eldest in 1986 and the second in 1987. After I delivered the first daughter, they expected that I would deliver a son. After the birth of my second daughter, they were very unhappy. My husband took care of me during the first two days after delivering my second daughter in 1987. Later, my parents-in-law persuaded my husband not to take care of me, so he did not come back for one month after that. They did not give me enough nutritious food to eat during that period and did not help me in delivering the babies. Already half a month after delivering my second daughter, I had to do agricultural work, even though I was still weak. I cried almost every day in the first month after delivering the second girl. My third child, a son, was born in February 1989. I was lucky that my own mother came to help me when I had difficulties taking care of the babies.

Household formation

In April 1989, my parents-in-law requested us to move out and live separately. My husband is the youngest son, who is normally expected to live with his parents (see above). They were unhappy that I had delivered two daughters and also wanted to push off the building of a new house. So we became completely independent. I was very tired during those years because I had to take care of the fields and make

wine, besides taking care of the children. I had to wash the children's clothes every day, because there was no concrete playground and their clothes were always very dirty. There was no washing machine to help me. I also had to get up early to prepare pig feed and cooked rice for the children. My husband rarely helped me because he was busy with his teaching.

When I established my own household in April 1989, I got four *mu* of paddy fields and 1.5 *mu* of upland land. I got eight packs of rice, about 600kg, from my parents-in-law. It was enough for us to eat before we harvested. We got two rooms in the house of my parents-in-law. I spent 40 *yuan* to buy four chairs. Next day, I went to buy chopsticks, a pan and cooking oil. I set up my own household in a very hard situation. My parents-in-law were unhappy that we could not build new houses, but it was very difficult for us. I had no opportunity to make money because the three children were very young and I had to allocate time to looking after them. But I still tried to make rice wine, and feed pigs and buffaloes to earn more cash. When I had just established my own household, I had to learn how to plough, because my husband did not know how to do it and had no time for it. Only a few women can plough in this village, because it is usually the men who do it, but I can.

Maturing stage

A new house

In 1995, I built a new house with the support of my parents and my brothers. It was really hard for me to build a new house when the children were very young but I gave it my best to succeed. I had only the two small rooms that my parents-in-law gave us to live in. I cut the trees on my parents' land and got 5000 *yuan* from my mother. But I had no money to put in window panes. It was my brother who gave me 300 *yuan* to install glass windows. My youngest sister also came back to help me with cooking. It took me 20,000 *yuan* to build the two-storeyed house I am now living in.

The children at school

In 1993, my eldest daughter went to primary school. My husband took her to the school where he is teaching. When the other two children reached school age, my husband took all the children to live and study with him at the school where he works. He has a good temper and tutored the children very well. The children's study was not so bad. In 2003, both girls went to professional school simultaneously, but I had a hard time sending them there because it required a lot of money. In 2004, when my second daughter did not show an interest in continuing her study, I agreed and allowed her to migrate, which really relieved the burden of paying tuition fees. I managed to pay the tuition fees for the oldest daughter in professional school by raising swine and selling piglets.

The children went to school with my husband. He was so tired because he had to take care of three children. They came back once a week to take rice and edible oil from home. I could not live with them in the school because I had to take

care of the fields. I had to work on the field on my own, but that was better than farming and looking after the children at the same time. My husband asked the students to help me with transplanting a few times. My husband told me about agricultural technologies he knew about from different sources, such as TV, magazines and field visits. He told me to try them out and I did.

In 1995, I bought a rice cooker. In 1998, I purchased a washing machine, which relieved my burden. I was the first one in the village who was able to buy these goods, because of my husband's salary. For most villagers, they were too expensive. In 1998, tap water was installed, which also saved time. In 2001, I began to use new feeding technologies and no longer had to collect and cook pig fodder anymore, which took several hours a day. There were many changes in that period and life became easier, even though we were still struggling with our low income.

Matured stage

When my first daughter was 20 years old, in 2006, she graduated from professional school and began to work. The household income is higher now. But the education fee for my son has also increased. I could not renovate my house, which many households do these years. Anyway, I began to relax and nowadays, I do not work as hard as before. In the past, I was too tired. My first daughter is a very considerate girl, always bringing goods or giving me and my parents-in-law money. When my mother-in-law passed away in 2006, she had already changed her attitude toward girls. Now, my father-in-law says that girls are also good to have.

My second daughter migrated to the province of Guangdong at the end of 2004, and just came back two weeks ago. She had spent all her income and did not have a penny to send back to me. Now, she wants to continue her study, after two years of working experience, because she found that her education is insufficient to find a good job. She now regrets that she did not continue her study in 2004. She blames me that I encouraged her to earn money at that time and to stop studying. I realize that I should support her to continue her studies if she decides to do so. My husband would like to invest more in the children's education and says that rural people have limited options. They can only improve their lives if they have enough education. My husband studied very hard after he started teacher training in 1977. He graduated and got a teaching job. I regret that I did not listen to his suggestion to support my second daughter's education.

Our household situation is improving these years. We would like to invest more in our son's education. But my son's attitude is different from ours. He does not put much effort into his study and always wants to buy a good brand cell phone, clothes and shoes. I think that he does not realize the importance of education. We sent him to a better high school and spent a lot of money. We hope that he can go to university. We do not maintain the house because we spend most of our income on his study. He is in high school, which is a better education than his two older sisters got.

I am relaxing now, raising only one buffalo and two pigs. I gained weight in these past two years. We do not have much land to cultivate and I do not feel tired from managing it. My oldest daughter also spent 400 *yuan* to hire people for transplanting rice seedlings, and 600 *yuan* to hire people to harvest. I also hired

people to do these tasks, but not so often. I am very happy that my daughter bought a new washing machine, fridge and sofa for me. New animal feeding technologies reduced the work load. The only thing I need to do now is to mix the pig feed and put it into the pig pen.

I bought a ploughing machine, a harvest machine, and a new motorcycle. I sold my pigs and got 3,800 *yuan*. I still have a buffalo that is worth 3,000 *yuan* and two pigs worthy of 2,500 *yuan*. But the piglet is really expensive this year; it needs 600 *yuan*. I do not want to raise more pigs at this moment, because the profits will be less if I buy the piglet at such an expensive price. My husband now spends more time with me in agricultural activities. He knows how to plough and harvest, but he does not know how to transplant, weed, apply pesticides, and market the products. Now, he uses machines to plough and harvest, which reduces the work burden. I still do what I did before, but not as intensively as before. When there was no migration in this village, my household was relatively rich, but now we are only middle level. I began to have more recreation. I visited my brother in the province of Yunnan in 2006 and my sister in Zhejiang province in 2007. Lately, I also make a lot of traditional clothes, which are popular again. Even the younger women wear them at important events. I am very happy now.

My natal household *(niangjia)* is a big household. I have seven siblings. Four of them are government officials with whom I have a good relationship. My natal household always gave me a lot of support. My siblings helped me with paying health expenses and the costs of the children's education. In 2006, I fell ill and my brothers sent me to hospital and paid the costs. My husband always jokes that I have a strong support household and that he could not beat me even if he wanted to.

6.4.2 Life story 2

Name: Xiu = EGO
Age: 59
Cohort: 1980s
Other household members: husband, one son
Household headship: male-headed household
Village: Dabuyang village

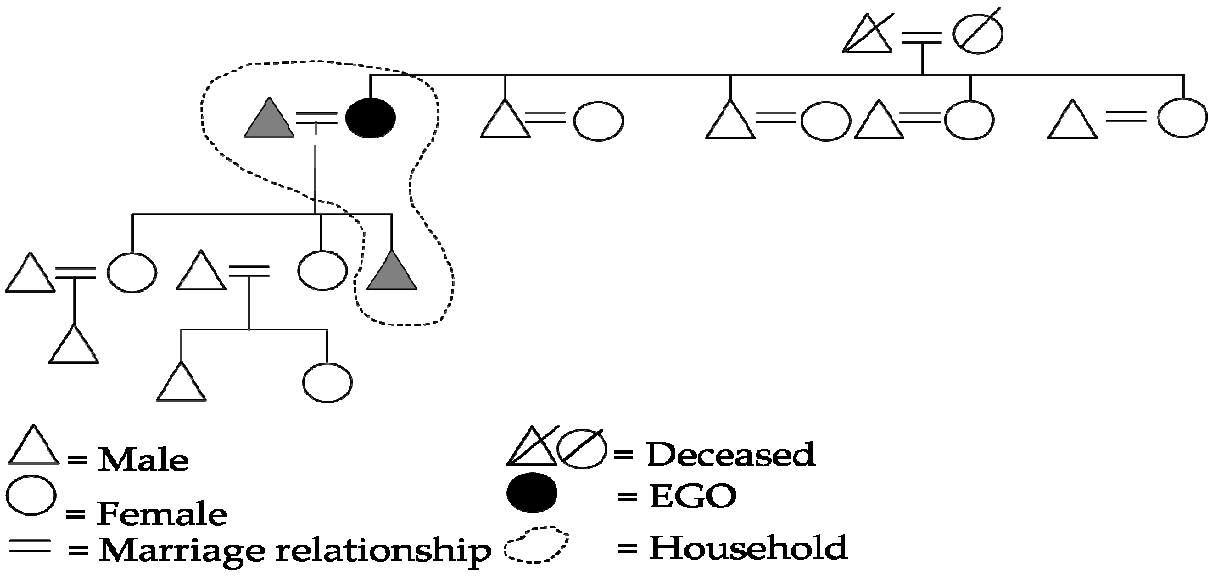

Figure 6.3: The genealogy of Xiu

Xiu's introduction

I have two daughters and one son. Both daughters got married. My husband is a carpenter. My health is not very good because I have arthritis.

Formation stage

I got married in 1976 but I came to live with my husband in 1978, after I became pregnant. It is the *zuojia* that requires us to do this. It was an arranged marriage. My relatives discussed the marriage with my husband's family. I only met my husband once before the engagement. When I just moved to my husband's house, my two brothers-in-law and two sisters-in-law were young and lived in the same house. We were a big household and my parents-in-law worked in the collective, even though they were over sixty. I delivered my first daughter in 1979, when I was 29 years old. The second daughter was born in 1980. My parents-in-law helped me taking care of the babies, although they were not very happy that I had delivered two daughters. Of course, they did not say anything but it showed in their behaviour. My husband and I did not have a household of our own in the collective period, and the work points we earned were added to my parents-in-law's points. My husband did carpentry and made bricks. He usually got higher points than me. In the collective era, we were not free to arrange our time and engaged in many daily activities, such as building irrigation facilities, planting trees, and cleaning land. If we engaged in private activities during working hours, we would be fined. During that period, the elderly stayed at home to take care of the children, raise pigs, make clothes, and cook.

We did not establish our own household until 1982. By 1982, the brothers had grown up and my parents-in-law experienced difficulty managing such a big household. We also complained about the way they allocated the money. Both my brothers-in-law and my children needed money, but my parents-in-law could not divide it equally. But we never had quarrels with my parents-in-law, because that would be against tradition. We just followed their arrangements. The land

distribution [HRS] was done in 1981. We got land for ten people, which was enough for us to cultivate. After the land was contracted to us, we became more relaxed.

In late 1982, I set up my own household by getting land for four people from my parents-in-law, eight *mu* of paddy fields and 0.8 *mu* of upland, one pan and bowls. We did not get cattle. That year, my husband dug coal the whole year round and got five hundred *yuan* to buy one buffalo. My parents-in-law still helped me to take care of my children, but we did not cook and eat together. We had no money to buy fertilizer at the early stage of our household. We could not harvest enough rice to feed our own household. We had to borrow maize in February and return it in October, after harvesting. We had only one room to stay in.

Maturing stage

I delivered my son in 1988, when I was 38 years old. We had to feed three children and life was difficult. My husband was a carpenter and did circular work in between sowing rice and harvesting. But we still could not get enough rice to eat and money for household expenditures. We needed a lot for tuition fees. My husband dug coal in the village's mine area in winter and I raised swine and yellow cattle. At that stage, we worried a lot about the children's food, clothes, and education. I borrowed maize from my older sister and returned it after harvesting. It is good to have more siblings, who can help each other. In 1992, life was a little better, because we tried our best to use more fertilizer and bought hybrid rice seeds. Yields were higher and the rice was enough to feed us. The oldest daughter helped me with household chores.

Matured stage

In 1995, my eldest daughter migrated and started to earn money for the household. At the same time, we had extra rice to sell. Both of my daughters had good marks at school but we could not afford their tuition fees. It was a pity that they only finished middle school. My second daughter got married with a primary school teacher, whom she got acquainted with when my daughter was employed temporarily as a teacher in that school. Now, they live there, about three kilometres away.

It was difficult for five people to stay in one room when the children grew up. In 1997, we decided to build a new house, on which we spent 6000 *yuan*. My husband did the carpentry. Relatives and friends helped us with the construction of the foundation. I borrowed 2000 *yuan* from my siblings. It was not easy to borrow money from the neighbours, because they were poor, too. In 1999, I had to borrow 3000 *yuan* for curing my daughter's illness. I borrowed money from a moneylender who charged a high interest. I paid 50 *yuan* interest and paid back the loan as quickly as possible. It was difficult to borrow money from the bank, because you had to submit many application forms to show your ability to return the money. The bank staff would come to check your household situation and decide on the loan.

I had a rice cooker in 1998 and bought a washing machine and TV in 2004. Our son migrated to Guangdong province in 2005 and told us to take it easy. He sent remittances for hiring people in the busy season. I spent two hundred *yuan* to hire people each year during the past two years, but I did not do so this year because of the increased labour cost. Sometimes, my daughters come to help during the busy season and buy medicines for me because I have arthritis. Sometimes, I also gave them money, because I have extra money now. My son is not yet married. He plans to get married after he reaches thirty. Society is changing. Boys and girls meet at work in the place they have migrated to. We had to marry Buyi people in the past, but now we can marry a person of any ethnic group. Neither one of my daughters married Buyi men. My grandchildren got a better education than my daughters did. My daughters' ideas are different from ours, too.

The oldest daughter only delivered one son, even though she can have another child according to the family planning regulations[19].

Recently, we harvested six hundred kilos of rapeseed and sold more than four hundred kilos. We harvested five thousand kilos of rice and sold about three thousand kilos. We go to the market every Friday in the nearest municipality. We buy pork, tofu, and vegetables. Every month, I make rice wine for my husband to drink. In the past, we bought it in the market because we did not have enough rice. The men in this village drink a lot and women hate that, but it is difficult to stop them.

Now, there is no need for us to pay tuition fees anymore. We have enough food to eat and enough money to buy fertilizer. I am raising two pigs and use new feeding technologies. There is no need to cook pig feed anymore. I only mix rice husk and maize with pig additive. I sell rice every year, and there is enough rice husk to feed the pigs. These days, the government provides more support to the poor and marginalized people. I joined the medical cooperative, paying 10 *yuan* per year, which is important for me because I have arthritis. If I had no illness, life would be very good, because we do not have to worry about food and clothes anymore. Now, it is easy to borrow money, too. In 2004, we borrowed 3000 *yuan* to buy a ploughing machine and paid 300 *yuan* interest. We do not like to borrow money from the bank because of the high interest. There is no interest when you borrow money from your relatives and neighbours. We only borrow money when it is really necessary. In 2006, we built the biogas facility and spent 1000 *yuan*. The government provided some of the materials. There is a problem with the contracted land; it is difficult to plough because there is a shortage of organic fertilizer. But now that we have started to use a ploughing machine, it is easier.

[19] The Guizhou family planning regulation generally allows rural farming households to have more than one child. In urban areas, however, most urban households are allowed to have only one child.

6.4.3 Life story 3

Name: Zhen = EGO
Age: 61
Cohort: 1970s cohort
Other household members: husband, one son
Household headship: *de jure* male-headed and *de facto* female-headed household
Village: Dabuyang

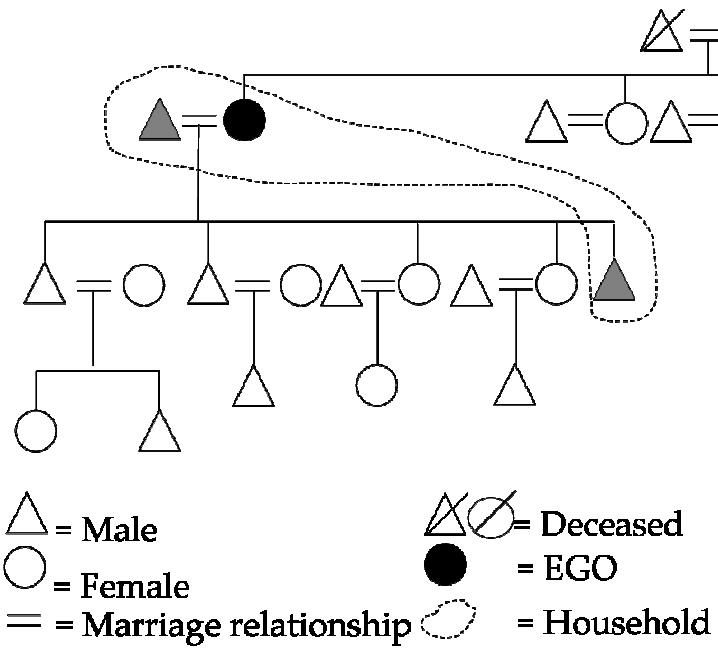

Figure 6.4: The genealogy of Zhen

Zhen's introduction

I have three sons and two daughters. All got married, except my youngest son. One son-in-law is from another province. He got acquainted with my youngest daughter when they worked together. They got married soon after that and are now living in Zhejiang province. My husband is a *fengshui* expert (see Chapter 4) and engages in a few agricultural activities.

Formation stage

I got married in 1965, when I was 18 years old. My marriage was arranged by my parents. They wanted their daughters to live nearby, so that we could take care of them when they were older. My hometown is the village of Maiwa, in the same municipality, four kilometres away. I observed *zuojia* and stayed with my parents (*niangjia*) for five years after my marriage. I came to live with my husband and parents-in-law in 1970 and delivered my first child, a son, in 1971. My husband is the only son in the household; he has three sisters. His two sisters were still at home at that time. I began to learn ploughing after I started living with my parents-in-law. When we married, my husband worked in another municipality, after he graduated from professional agricultural school. In order to take care of

the household, he stopped working there and came back to farm after the first baby was born. Then he began to learn farming, but he did not like it very much. He always went out to act as a *fengshui* master. We did not live separately from my parents-in-law because he was the only son. We did not have too much to manage at home, and household decision making was simple.

I delivered the babies at home and had to resume working in the field three days after delivery. My parents-in-law were working in the collective, so I had to bring the children with me when I worked in the collective. From 1976 to 1978, we did not have enough rice to eat and had to grow maize in illegally reclaimed land, to make up for the food shortage.

Maturing stage

In 1981, we got a land share of eight people. It took ten months to finish the land distribution process in the village. I did not go to the sites when they allocated the land and my husband was outside to do construction work at that time. We did not get very good land; it was located far away. I cultivated three *mu* of paddy fields abandoned by other households because of a labour shortage. We had no money to buy fertilizer, experienced food shortage, and could not feed ourselves until 1984.

In the middle of the 1980s, our two oldest sons were in middle school and the other three children were in primary school. In 1999, my youngest son attended professional school but I had no money to allow him to finish the study. Then, in 2001, he went to work in Guangdong province. My youngest daughter got good marks at school, but she came back to help me after she saw that we were very tired. She finished five years of study and her older sister got three years of study. But they never blamed me, even though they felt some regret that they did not get a higher education. I felt life was hard from 1986 to 1990, because all the children were in school, but I tried my best to bring them up.

Before the mid-1990s, I had to make clothes for the children and was very busy every day. I had to cook and to raise swine, even though I was very tired. My husband did not engage in a lot of farming and continued practicing as *fengshui*. He normally ploughed and carried manure. I had to carry out all other agricultural activities. I also had to collect fuel wood for lack of cash to buy coal. My mother-in-law was very strict and unhappy if she ever saw me relaxing. But I needed rest and tried to find opportunities to go out to chat and relax. I pretended to go to the field, where she could not see me.

Matured stage

We stayed in an old, small, three-room house with my parents-in-law after we got married. In 1995, we built a house with the help of the unpaid labour from relatives and friends. Most materials we made ourselves. We did not spend a penny on hiring people and only provided food for them. We even made the bricks and doors ourselves. We only spent 7000 *yuan* buying cement, steel frame and glass. In this period, the children also grew up and helped with agricultural production.

In 1988, my oldest son began to help me with agricultural production and I felt a little better. In the early 1990s, two sons migrated and relieved my big burden. My daughters, who also helped me in agricultural activities, migrated in

the middle of the 1990s. Things improved. In 1997 and 1998, two of my sons got married and I had to have enough money to give them. I began to diversify, growing more crops, raising more pigs, and cultivating more vegetables in the home garden to sell.

In 2000, my oldest daughter-in-law requested that we divide our household into small houses, because she was unhappy that I gave more money to the second daughter-in-law in marriage than to her. The reason was that the second son got married later and we had to give more money to them to buy goods because prices had gone up. The oldest daughter-in-law quarrelled with me and requested the division of the household. All the paddy fields were divided into three equal parts and each son got one part, in return for which they were required to give us 300 kg of rice every year. Now, only the oldest son cultivates his land. The second and the youngest son have migrated out. As a result, we are ploughing their land and do not ask the oldest son to give us rice.

Life has improved because the children have grown up. We have enough food to eat. I can cultivate the land and do not feel so tired now. Sometimes, we hire people to help with transplanting and harvesting. We also get subsidy from the government. This year, it is 300 *yuan*. I am taking care of a grandson because his parents are migrant labourers. It is not very difficult because he is nine years old. These days, my daughter also sent her daughter to me because she and her husband want to work in a factory. I will take care of my granddaughter for two months. I am still collecting fuel wood. I sell at least one pig and one buffalo every year. I am planning to construct a biogas facility the coming winter, because many households already use it. My second son is building his new house but he could not come back. He sent money to us and asked us to hire several people to construct the house.

6.4.4 Life story 4

Name: Fen = EGO
Age: 54
Cohort: 1970s
Other household members: a husband, one son and one daughter-in-law, one daughter, one daughter-in-law, and one grandson
Household headship: *de jure* male-headed and *de facto* female-headed household
Village: Dabuyang

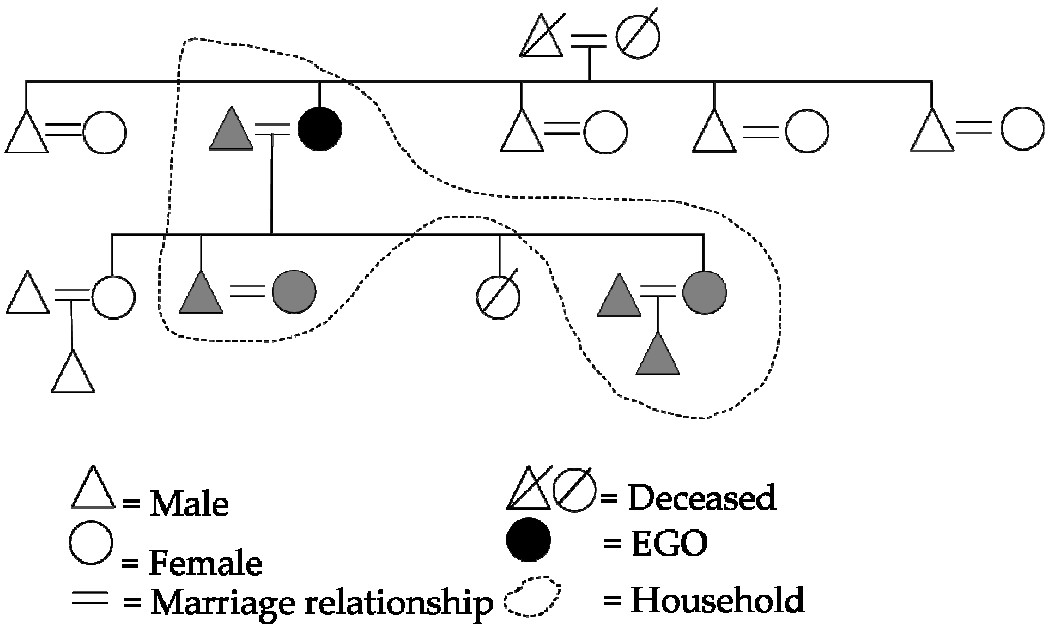

Figure 6.5: The genealogy of Fen

Fen's introduction

My husband is a carpenter and we have one son and three daughters, but unfortunately, one daughter died in 2003. I was the former female village leader and the villagers like to ask me for help. I am willing to help others, even though I am not the village leader anymore. I feel better these years, after experiencing a lot of hardships.

Formation stage

I got married in 1973 at the age of 20 and lived in *niangjia* for one year more. My hometown is Xiaobuyang, a neighbouring village. When I had just moved to my husband's house in 1974, I lived with my parents-in-law and three unmarried brothers-in-law. One brother-in-law was already married and had his own household. I delivered my first daughter in 1975. We had only one room to live in. We separated from my parents-in-law and established our own household in 1976 with nothing. In 1981, we moved into a small house near a well, built with the wood of our own trees.

It was a joy to work in the field during the collective period because we chatted a lot, but we did not have enough food. I could not feed my children and we had to supplement the rice with maize. At the end of 1980s, the village began to allocate land to each household. It took almost one year. I got land for a family of five (three children, my husband and I) because my youngest daughter was not born yet. We did not know the duration of the contract. Many people thought it was temporarily contracted. My paddy field was 10 *mu* with 9 parcels and upland I got 10 *mu* with six parcels. Although we had little money, we tried the use of fertilizer. As a result, the rice yield was higher and life improved after two years. We had enough rice to eat from 1983 onward.

Maturing stage

The house became too small for my household and my youngest daughter fell into the well, which almost killed her. In 1990, I built my new house, even though I had to borrow money and rice to finish its construction. I did not want to wait until I had enough money to build the house, so I borrowed money to buy cement and steel. All the other materials – such as stones, bricks and window frames – were prepared by us, our relatives, and the neighbours. At that time, the tradition was to treat the helpers to food instead of paying them money. It took us one year to finish the house. It was the first house in the village with a concrete roof. My main income came from selling rice. We did not have much income from other crops. My husband did some carpentry and earned some money selling the products. He usually helped the neighbours and friends with carpentry tasks and only earned free meals.

Matured stage

In 1995, the CBNRM project started in our village and I was elected female village leader, because this project promoted women's participation. I was busy attending different kinds of activities, but I also had more opportunities to visit the outside world and places where I had never been. In 1996, I planted 80 peach trees, with the help of the CBNRM project. In 1998, they began to bear fruit. I earned 700 *yuan* that year. Later, the yield increased and I can now earn about 2000 *yuan* every year. I also bought other fruit trees and they all grow well. In 2003, I had some strawberry beds and I earned an strawberry income of 1300 *yuan*. My children grew up and they began to migrate after having graduated from middle school. Life was improving.

I was unlucky in 2002. From childhood, my second daughter suffered from heart disease. In 2002, after several years of migratory life, her illness began to get serious. We tried many ways to make her better, e.g. by combining Chinese herbal medicines with new medical technology. I spent 20.000 *yuan* on medical expenses, and have just finished paying back the loan. Unfortunately, she died in 2003. I felt like another person during the last two years before her death. I worked very hard to earn money. I cried about my bad fortune and my hair soon turned grey. It was a terrible period for me. All my income was spent on curing her illness, but she still could not recover. If I had not spent so much on her illness, I would be richer now. My husband just followed me and did not offer other solutions. We just worked hard to pay for the loan we had taken. We tried to raise swine and buffaloes, and cultivated different kinds of fruits to get more money.

Post-parental stage

Now that I have paid back all the loans, my life is very comfortable. I always have enough rice. Our money comes from more resources now, not just from rice. The only thing I worry about a lot is that my son has no child, even though he has already been married for several years. I have only one son and he has to continue

the family name. But they were unable to have a baby, even though they consulted doctors many times. This is the biggest problem I have now. The villagers do not talk about it, but I feel my life is not as it should be. My youngest daughter and her husband migrated and left their son for me to look after. I do not know whether they will stay with me in the future. My daughter is still in my *hukoubu*; she has not registered in her husband's hometown. My youngest daughter and her husband usually come back here for the festival and holidays. I count them as my household members.

I got subsidies from the government the past two years. I got a subsidy of 70 *yuan*. I was also exempted from paying a 230 *yuan* tax. I was asked by the villagers to organize two touristic trips, which we never would have thought of doing in the past. Our main income is from rice, fruit trees, pigs and long-term migration. I cultivate rice and rapeseed in the paddy field and maize, sweet potato, chilli, sunflower, pumpkin, bean, and potato in the upland area. Maize, potato and sweet potato vines are used as feed. Other crops are mostly for our own consumption. I want more training in agricultural technologies. I am responsible for managing the money. Every market day, I buy my husband a pack of cigarettes. He never thinks about the household consumption and never borrows money. I am responsible for the agricultural production, such as buying seeds, arranging ploughing time, and marketing. He just follows my lead. We often go to the market together, because he carries the rice sack that I then sell it in the market. I am also taking care of my youngest daughter's child. It is joyful to have my grandchild living here, even though we are very tired in the busy season from taking care of him and from conducting our agricultural activities.

My husband has a big family with four siblings in this village, and we help each other a lot. Our houses are adjacent and we share everything. But five years ago, one brother built a house near the main road, since there was no space on the old spot anymore. People build much bigger houses now. I also have a big natal family, with two brothers and two sisters. I am renting my niece's land to cultivate these two years, because she is migrating. Women in our village are better at managing the household and like to sit together to discuss agricultural production. Men only know how to drink during every meal and follow women's suggestions. Several women tried to experiment with finding the optimal density of rice and strawberry plants. They now often come to my room to knit traditional clothes, since they have more money and the traditional clothes are becoming more fashionable, though I do not know why.

6.4.5 Life story 5

Name: Yan = EGO
Age: 46
Cohort: 1990s
Other household members: a husband, two sons
Household headship: *de jure* male-headed and *de facto* female-headed household
Village: Dongkou

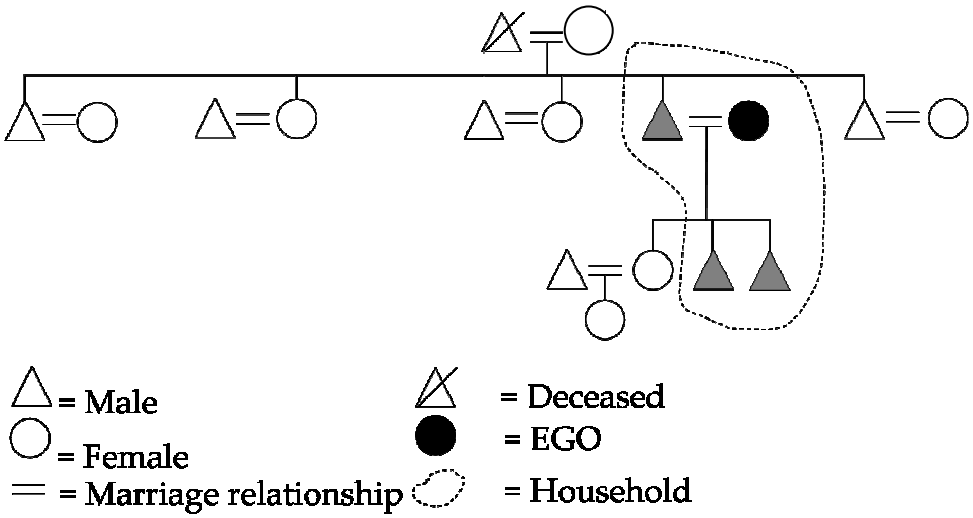

Figure 6.6: The genealogy of Yan

Yan's introduction

I have one daughter and two sons. I graduated from high school. I have five *mu* of upland and one *mu* of paddy fields. My oldest daughter got married in the same village and she delivered a baby girl half a year ago.

Formation stage

I got married in 1982, when I was twenty years old. I came from another county far from here. My husband and I met through my father's friend. My father was a worker and his friend introduced me to his relative, my current husband. I delivered my daughter in 1984, the oldest son in 1986, and the youngest son in 1989. The children and I had no land share. My father-in-law was a former village leader and felt strongly about keeping the household together. He did not allow us to establish our own household, so we were part of a big household. All the decisions were made by him. He did not allow the children to do dangerous work, such as mining. He also would not easily accept modern technologies. My parents-in-law got land for four people: my husband, my brother-in-law, and my parents-in-law. Later on, our extended household had 12 members, because my brother-in-law got married in 1984 and soon had three babies. There was not enough land to feed us all and our house was really bad, mixed slate and wood only. In 1987, my parents began to accept new technologies and we began to cultivate watermelon. In 1988, we earned four hundred *yuan* by selling watermelon and the situation improved a little. Our income from watermelon accounted for 30 percent of our total income in the first five years we planted it. My father-in-law had a hard time managing the big household, but he still did not allow us to establish our own household.

Maturing stage

In 1998, my husband, my brother-in-law, my sister-in-law, and I discussed splitting up the extended household with my parents-in-law, because we stayed really poor without independent arrangements. They agreed to divide the big household because they had no energy to manage it, now that they were older than 75. As a result, we established our independent household by getting one *mu* of paddy fields and five *mu* of upland. My father-in-law lived with us, while my mother-in-law lived with my brother-in-law. In that year, my father-in-law died. After his death, we made our own decisions about agricultural production, using hybrid rice and maize, which my father-in-law had not allowed. I could make my own decisions after the household division and felt freer. We tried different new technologies.

In 1998, I was elected as the female village head. After 1998, my husband began circular migration to work in the coal mines, which provided another source of income. That year, our house was damaged by strong winds and we had to repair it, which made my life harder during that period. We bought cheap bricks from a relative living in the municipal center and repaired the house in which we are currently staying. It took us 2000 *yuan*. In 2001, my daughter migrated and life became easier.

Matured stage

In 2003, we began to run a stone quarry on the village's land, by annually paying 1000 *yuan* to the village. It was very small, but every year, we got a profit of several thousand *yuan*. In 2006, we borrowed thirty thousand *yuan* from the bank to expand the quarry. One of my sisters-in-law got married in a nearby village and we borrowed money from her as well. My siblings are all government officials; they lent me ten thousand *yuan*. Until now, I have been paying back the loans, even if I have not made enough profit. I also got support from neighbours in running the stone quarry. Two neighbours gave their land to me and charged only a small amount. We helped each other to earn money and we can share the benefits. It is not easy to run the quarry and our electricity was cut down two days ago. The electricity station thought that I connected the electricity illegally, but that is not true. I may be fined if I want to continue to use the electricity. I will go to the electricity station next week to clarify the matter. I am so busy with the quarry that I have had no time to weed chili and other crops.

In 2007, my daughter got married in our village and I spent seven thousand *yuan* on the wedding. Unfortunately, my older son had a car accident that same year, which cost me six thousand *yuan*. Now, he is recovering but he is unable to migrate. He only does agricultural production at home. I decided to raise two hundred chickens at the quarry site that he can take care of. It is an isolated spot, which will prevent the chickens from getting cholera, a very serious disease that affects the chicken business here. At the same time, he can take care of the quarry. We plan to build a new house this year and hold a wedding ceremony for him next year. In 2007, my youngest son migrated as well. I tried different ways of making a profit, but all my income was invested in the quarry. I expect the quarry to give me more profit.

These days, we raise more pigs to sell, because the use of new feeding technologies has made it easier. Now, there is no need for me to collect fuel wood every day to cook pig feed. We had more crop varieties in the past, such as millet and sorghum. Nowadays, these have disappeared because they are difficult to process when cultivated on a small scale. People have become lazier, too. I am planning to cultivate cucumber and beans for commercial purposes, but I will need to learn the cultivation technologies first. We still plant watermelon. We are very busy in the harvesting period because we have to look after the watermelons every night, while we have to sell them in the market in the daytime. This lasts one month. If we produce more, the businessmen will come to us. Since we began to run the quarry, we have been unable to spend enough time on the watermelons and the yield is decreasing. But I have to give more time to the quarry, because that is what we have invested in.

I am a sociable person and have many friends coming here to engage in mining and other business. I have always tried my best to help them, even before I was selected as female village leader. All my siblings are government officials because my village was a suburban village; they got a higher education and found jobs. My siblings helped me a lot when the children's education had to be paid.

6.4.6 Life story 6

Name: Xiao = EGO
Age: 40
Cohort: 1980s
Other household members: a husband, one son, and one daughter
Household headship: dual-headed household
Village: Dongkou

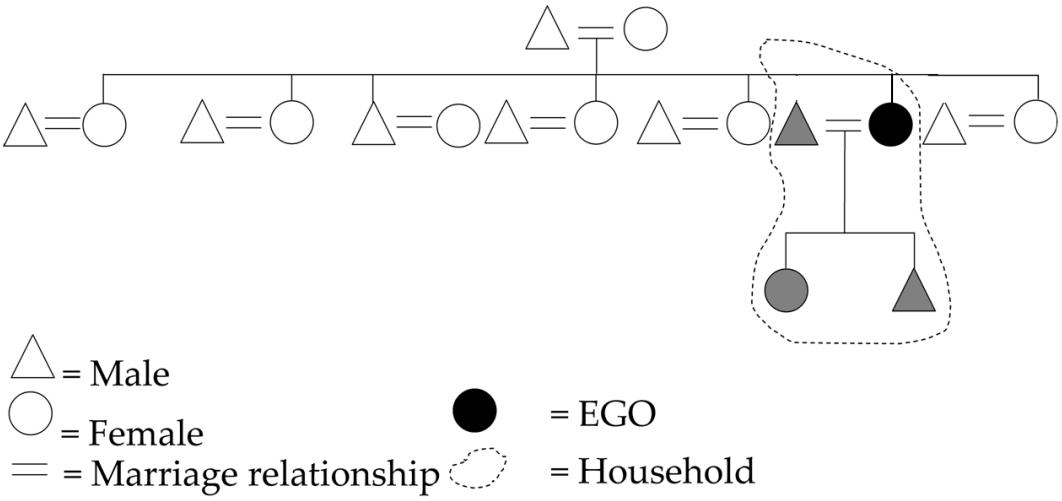

Figure 6.7: The genealogy of Xiao

Xiao's introduction

I never went to school because my parents moved to this village from another county when I was seven years old. They left me behind in our former village and did not send me to school. They also had no motivation to send girls to school. I have one daughter and one son. My husband has no siblings in this village. All his sisters got married elsewhere, and his only brother has an official job in another county. This is why we have more land than other households have. In the past, we were able to grow extra maize to sell and use the money to buy rice when the others could not. I do not cultivate hybrid maize, either, because I have more than enough land to cultivate low yield but tasty local maize.

Formation stage

In 1987, I got married when I was nineteen years old. My husband and I lived in the same village. This is the case with several couples here. The other villagers find it strange that we have so many intra-village marriages. They say: "It seems that the village has so much gold and silver that you like to marry here and do not want to move outside the village". One of my sisters also got married in the same village. I knew my husband very well before marriage. I feel proud that we like our village, even though it is not a rich village. I only got one thousand *yuan* as a dowry to buy clothes when I got married. When I just got married, my husband's four younger sisters and one younger brother were still at home and we all lived together.

In 1988, I delivered my first child, a son. In September 1989, we separated from my parents-in-law. We got four *mu* of paddy fields and ten *mu* of land higher up. I also got one buffalo, twenty kilos of maize, and one piglet. We did not get any kitchen utensils. Traditionally, we were required to cook ourselves once we established our own household. So my husband cut the trees and sold them in the market the next day to buy kitchen utensils. We began to cook ourselves. In October, we harvested and we had enough food for the whole year. We were lucky that the buffalo had a baby the next year. We sold the calf and got a higher income. Our household life improved after we sold the calf. Later, we began to raise piglets. After we sold the pigs, we got more cash and the household economy was gradually improving. We used to raise five to six piglets at that time.

In the early phase of my marriage, the crop yield per unit was not very high because we could not buy fertilizer and hybrid seeds. I reclaimed an upland area in 1989 and 1990, because we needed to plant more crops to feed us. During the slack season, when we were reclaiming the land, we carried the baby on our backs. In the early 1990s, we also tried to use this land to cultivate watermelon to earn cash. In 1990, I delivered my daughter. I began to raise chickens, which provided sufficient income to buy cooking oil. Whenever I needed oil, I sold a chicken. I had to fetch water, cook, make wine, and raise animals. We did not want to feed the pigs with the raw maize, but used it to make wine first, and then we used the maize residue to feed the pigs. It is more economical that way.

Maturing stage

In 1995, my son went to school. Once the child went to school, we had to think about earning money to pay for the costs of his education. The income from watermelon helped a lot in paying for the children's education. I sold watermelon in summer and kept the money for the children's tuition fee in autumn. Otherwise, we would have had difficulties to pay the tuition fee because rural households do not earn much in September, before the autumn harvesting time.

In 1997, I began to cultivate tobacco but stopped three years later, although the government promoted it. It was not easy for us to produce tobacco of a quality that met the tobacco company's criteria and we did not earn a lot of money from it. The tobacco company often classified the quality of our tobacco as low. In 1998, we also borrowed 1000 *yuan* from the bank to buy coal, to dry the tobacco leaves. It was difficult to get the loan and we had to show many documents to prove we would be able to pay it back. Because the government promoted the tobacco production, we got the opportunity to get the loan. Otherwise, we would not have gotten it.

In 2000, I built my own house by spending thirty thousand *yuan*. My main income came from watermelon, tobacco, and raising cattle. Animal husbandry is one of my main incomes. We raised female buffaloes and sold a calf every year before we migrated in 2003. We spent all our savings on building this house and borrowed ten thousand *yuan* from my siblings. Our relatives and friends helped us by providing free labour. It was the hardest year for my household. I had to borrow money to build the house and had to pay for the children's education. During those two years, my son went to the municipal middle school and I had to pay more for his study as well. I also planted plum and pear in 2002, and intended to earn more income from cash crops, but unfortunately, most varieties were not very good, since we did not know much about the seedlings.

In 2003, my husband and I migrated. It was rare for our generation to migrate at that time. It still is, even now. We went with another couple because their brother was working in a pig feeding farm and arranged everything for us. We sold our pigs, horse cart and cattle, and got several thousand *yuan*. We took all the money with us in case we could not find a job, even though the job had been prearranged. But we were lucky and earned a lot of money that year. So we returned to our hometown and paid back all our debts at the end of 2003.

In 2004, my son migrated to Guangdong province after finishing middle school. We went there with him and worked there for one year. It was easy for us to migrate there, because we did not worry about finding jobs. We only brought enough money to cover the costs of transportation. We knew that we could find enough money for our daily maintenance. We gave good paddy fields to my parents-in-law to cultivate and the other land to good friends. We did not require money or products from these friends. When we came back, they gave us some maize and sunflower seeds as a renting fee.

Matured stage

In October 2007, my father-in-law died and we came back to arrange for his

funeral. We were still working in Jiangshu province. Now, I have no pigs because I just came back and have not decided whether we will migrate again or not. If we do not migrate, we want to raise pigs on a large scale, but the issue is that we do not have enough capital to buy piglets. One piglet costs seven hundred *yuan*, the highest price I have ever known. It is easy to borrow money now because more people have savings, but I do not want to borrow. The bank asks a very high interest. In 2007, we bought a truck for our son to start a transportation business and hoped that he could stay at home. He did this for half a year but migrated a month ago, because most young people have left the village and he did not have any friends with whom he could spend the evenings.

Last month, in June 2008, my daughter passed her entry exam to college; she is now waiting for the admission letter. If she is admitted to university, we have to go out to earn money for her study. Otherwise, we will not migrate, because we want to have a rest. It suffices for us to survive through our agricultural income and my husband's income from circulatory migration. We went to many cities and did several kinds of work: raising pigs, building houses, doing cleaning tasks, et cetera. I feel that the migration experience has made me more broad-minded. I do not quarrel with villagers about trivial things, such as lost chickens or cattle damaging the seedlings. I also plan to improve sanitation by building new toilets. But we still need to keep some traditional habits. When we first migrated, people thought it was money-consuming. Now, villagers like to migrate and even borrow money to buy tickets. Whatever happens, you can find enough money to pay for your transportation. It is good that migration gives the children an opportunity to get outside exposure; it is not necessary for the parents to give them money. The children are bold enough to migrate because they get enough information from other migrants. But in the past, it was difficult for us to know the outside world. We saw it only on TV. When we migrated, we had doubts about it, since the few former migrants existing then had not given us much information.

I have a big natal family with six siblings in this village. I always go back to my parents, to share materials and information with them. I make decisions together with my husband. Women are more talkative than men are, but still only make decisions on trivial matters, such as daily necessities. Important matters, such as building a house, buying cattle, and so on, are still jointly decided by husband and wife.

6.4.7 Life story 7

Name: Ming = EGO
Age: 55
Cohort: 1970s
Other household members: a husband, two sons, one daughter-in-law, one daughter, and one granddaughter.
Household headship: *de jure* and *de facto* female-headed household
Village: Dongkou

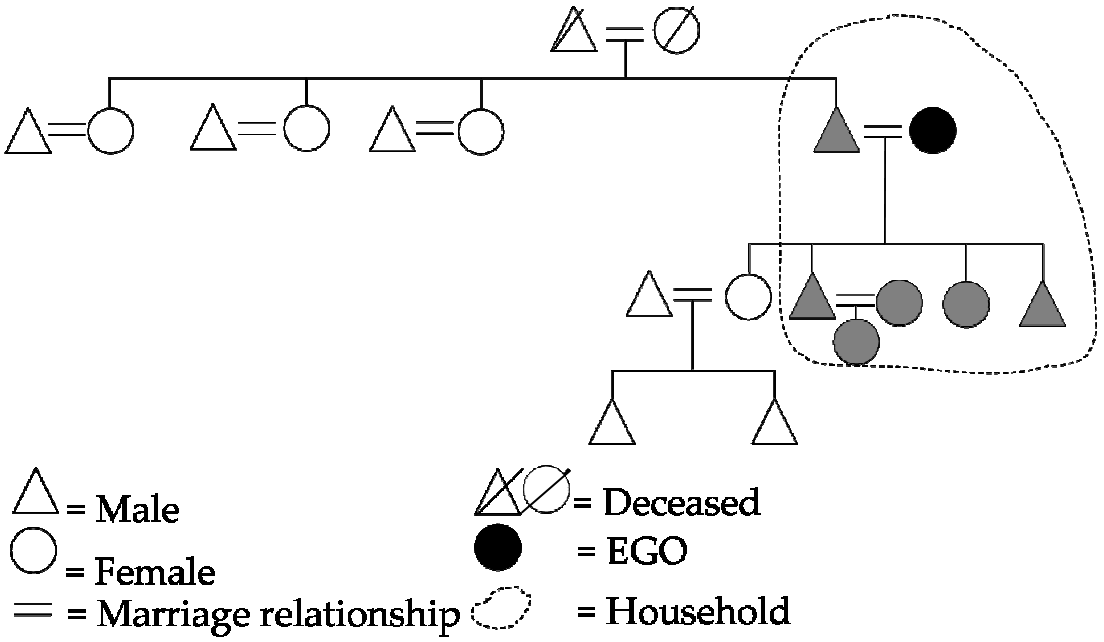

Figure 6.8: The genealogy of Ming

Ming's introduction

I am from Sichuan province. I finished middle school. My husband is sixty years old. He is a mine worker and only got two years of education. His health is not good and he retired in 1996. I have two sons and two daughters. One son and one daughter got married. My son-in-law is from the same village. My daughter-in-law is from Guangxi province. My daughter has two sons, and my son has one daughter. All my sons, daughters, son-in-law, and daughter-in-law have migrated. I have to take care of my granddaughter and sometimes also take care of the son of my daughter, who is mainly taken care of by my daughter's parents-in-law.

Formation stage

I got married in 1972, when I was twenty years old. My aunt worked in the same coal mine as my husband and introduced him to me. My husband is an orphan. His parents passed away when he was one year old. He was brought up by his oldest sister. He had five sisters and one brother. They were very poor when he was young. We had no house to live when we were married and temporarily had to stay in our cousin's house. It was a simple, thatched house in poor condition. My husband worked in the factory and had a monthly salary of 20 *yuan*. In 1978, we spent three hundred *yuan* to get a piece of land from my uncle. We built a wooden house there in 1980. During the collective period, I could not diversify my livelihood activities; I only worked for the collective. We had no extra products to sell. I did not contribute very much to the collective's agricultural production because I had to take care of the children myself. We mostly ate maize because there was not enough rice. Every day, I had to grind maize manually, which took a lot of time. It was difficult to buy goods, even if we had some money. It was so hard because my husband was working far away and I had no parents to help me. I always took my children with me to the field and had to travel a lot to see my husband.

Maturing stage

Land allocation in our village took place in August 1980. My household got land for myself and my two daughters, but not for my husband, because he was a government employee. My sons were born after the land allocation, so they could not get land. Our land holding per capita is low in this village. I have only 0.9 *mu* of paddy fields (three parcels), 2.3 *mu* of dry land (six parcels), and 6.2 *mu* of forestland. All the land was allocated according to three classes in terms of quality. Each household got three types of land. The land was divided into small pieces and all households ended up with scattered land. My oldest daughter did not ask for her land share, although she got married in the same village. The tradition here is that married women cannot claim land from their own parents. But the women in my natal hometown *(niangjia)* do claim land and a house from their parents. Women are treated more equally in my hometown.

In 1983, I had enough food to feed the children but I worked harder than in the collective period. I had to do all the agricultural activities, except the ploughing. Cutting grass for feeding our cattle was a time-consuming task, but I had to do it every day. Nobody helped me and the children only helped with cooking and looking after the cattle after school time.

Matured stage

I built the current house in 1994. It is a two-storeyed house. During that time, my household was comparatively rich, because my husband had a salary and I had enough food for the household. The other villagers had no other income sources but agriculture.

In 1999, my oldest daughter got married. In 2004, my son got married as well. My son met his wife in the factory in the town to which he migrated. My daughter-in-law came back to stay with us in 2006, when she delivered her baby. I had to take care of the baby, even though I did not like it very much. Now, I have to look after the child because she has migrated again. In the past, daughters-in-law did the agricultural work, while the parents-in-law would take care of the children and have more say in their upbringing. Now, things are changing: mothers-in-law take care of agricultural activities and daughters-in-law take care of the children. I cannot tell them to have a second child, even if I would like to. But in the past, the parents-in-law had more power to ask their children to deliver more babies.

In 2007, my son wanted to run his own decoration business in the town he has migrated to, using his experience in the factory. He asked me to go to the Municipal Credit Cooperative to borrow 20000 *yuan* for him. In 2007, my daughter also wanted to borrow 20000 *yuan* and asked me for help as well. It is easier for me to borrow money because my husband has a salary, so the Cooperative does not worry about us paying back. My son has not returned the loan yet; he only paid back the interest because his business does not yet make a profit. It is not easy to run a business, even a small one. But he wanted to try and I helped him. Although the bank interest is really high, we have to pay it because we have no other sources to borrow such a big amount of money. My household is not very rich, because many migrants earn more than my husband does.

From the beginning of the HRS until now, our village has a tradition of exchanging labour. We do not ask for money, as the neighbouring villages already do. We really have a shortage of labour nowadays, and help each other in turn with transplanting and harvesting. Both men and women join the labour exchange model, but only if they are able to do their part. My household is badly short of labour and we could use help, but we cannot give any labour in return, since I am the only one in our household who can work in the field. I feel ashamed to always have to ask help from others. Sometimes, I hire people from other villages to work for me. My husband cannot do any agricultural work except looking after the cattle, cooking, and collecting fuel wood, because his health is very bad. I have not cultivated the paddy field for several years and gave it to my daughter for cultivation. She gave me half of the harvest. But this year, my daughter has migrated and I have given it to other villagers to cultivate. They will give me some products, but we do not talk about the details. It is not good to let paddy fields lie fallow. Others will gossip and say that I am lazy. But I really have no labour and can only cultivate the upland field. I have maize, soybean, sunflower, bean, pumpkin, potato, and chilli. But I do not cultivate watermelon and tobacco because of the labour shortage. I also have ten chickens, three pigs, and two buffaloes. I still value land, although my husband and I cannot work on it ourselves and mostly hire others to do so. We were unable to migrate and have to harvest maize to raise pigs and chickens. We also need to grow some crops for our own consumption. We never cultivated vegetables to sell, because the market is too far away; we only grow vegetables for our own use. I have nothing to sell on the market and only buy goods. I am very relaxed compared to other women in the village, because I can take a rest. Although not high, our income is high enough.

6.4.8 Life story 8

Name: Ying = EGO
Age: 54
Cohort: 1970s
Other household members: a husband, three sons, three daughters-in-law, one daughter, and five grandchildren.
Household headship: *de jure* and *de facto* female-headed household.
Village: Dongkou

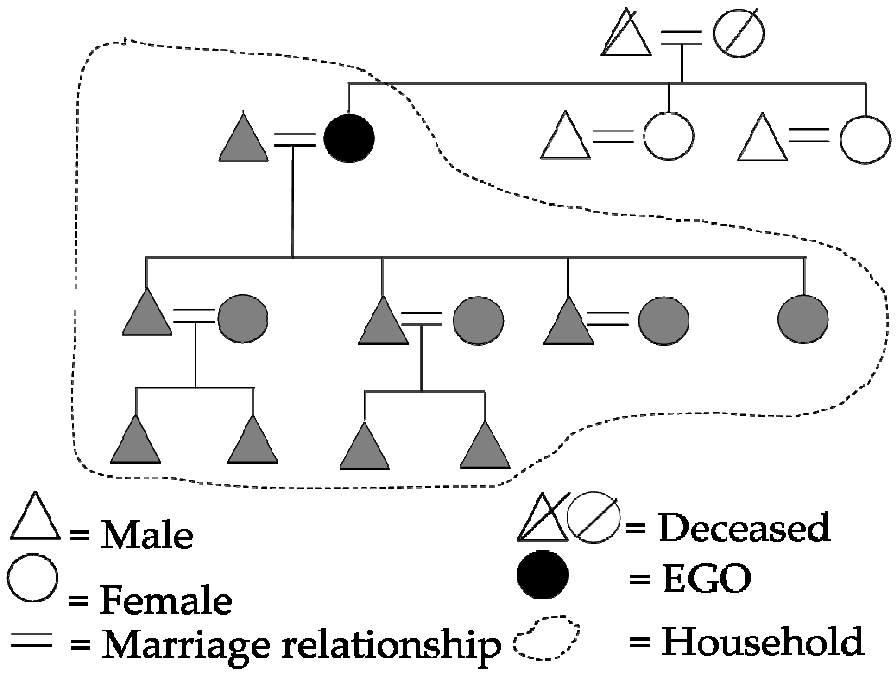

Figure 6.9: The genealogy of Ying

Ying's introduction

With 14 members, I have the biggest household in the village. Three sons already got married and nobody wants to establish his own independent house. All the children are considerate and they never quarrel. My second son is at home and the other three children migrated. Together with my daughter-in-law, four of our household members are away.

Formation stage

In 1972, I got married when I was eighteen years old. My husband came from a nearby village. My father died in 1970, when I was sixteen, and two younger sisters were just six and two. I have no surviving brothers, although my mother delivered two sons, because the medical situation was not very good at that time. When my father died, we were in great need of labour, which is why my mother arranged my marriage. My husband was required to live with us to solve our labour shortage problems. It was not normal for a husband to live in his wife's house (*shangmenlvxu*), and it normally only happens in households without men. My husband just graduated from middle school and was seventeen years old. He knew little about agricultural production. He was unable to get more than six work points during the first two years. But he worked very hard and got the maximum of ten points two years later.

I delivered my first child, a son, in 1974, when I was twenty years old. Unfortunately, my mother died the next year and I had a hard time, because my son was only one and my two sisters were only nine and five years old. We did not have enough food to feed ourselves during the collective era. When my mother died in 1975, we did not have any grain at home. My uncle went to the government to borrow 30 kg of maize and invited the villagers to help with the funeral. In 1976,

I delivered my second son in the municipal clinic. The conditions in the clinic were not as good as they are now, but better than in my mother's time. All my children are still alive.

In the collective era, our staple food (maize) was only enough for half a year. Often, my husband and I were only half-full, but we still had to work in the field. We only ate meat at Chinese New Year. It was not allowed to reclaim land until 1979. We borrowed maize from the village every year. In 1979, we were permitted to reclaim land. We tried our best to reclaim more land and life improved. In 1981, all the land was allocated to households. I got four *mu* of paddy fields and 20 *mu* of upland. I also had some reclaimed land. My husband attended the land division discussions. When he just came here, he was an outsider. It took him some time to become familiar with the village, but he learned quickly. My husband is a *shangmengluxu*, who are normally looked down upon, but he gets along with the villagers very well.

When I attended collective production work, I also had to take care of my children and my sisters and took them along. The person recording the work points did not feel happy about this. I also could not get maximum points because I did women's work. Since I needed ten points to feed my household, I learnt to plough, which was rare for women at that time. I got more points when I did what men did. Every day, I also had to carry water, and grind and cook maize, which took a lot of time. I could not go to bed sometimes, and then could not keep my eyes open the next day, but I still had to attend collective work. My husband helped me a little with household chores.

Maturing stage

In 1981, I built the wooden house with a tiled roof, using the trees from our own forestland. My oldest son went to school that same year. He got a lot of education and studied from 1981, when he was seven, to 1998, when he was twenty-four. He studied very hard and smoothly went on to a higher professional education. When he passed the exam for professional school, we tried to support him, however difficult that was for us. We spent four thousand *yuan* for his three years of professional schooling and it was difficult to earn money at that time. Our income mainly came from selling maize, cattle, and pigs. I had to save every penny for him and the other children. It was difficult for me when the children were in school, during the 1990s. I also married off my two sisters in 1984 and 1987, but I could not give them a large dowry. They did not blame me and we have a good relationship.

Matured stage

In 1998, my oldest son finished his professional study and life was becoming easier. During that period, we had enough rice to eat and did not eat maize anymore. My husband and I worked very hard and tried to make money, especially by raising more animals. We built our concrete-roof house and my eldest got married that year. We also gave his wife 4000 *yuan* to buy household and personal goods.

In 1999, my second son got married and we gave his wife 4000 *yuan* as

well. In 2007, my youngest son got married and we gave his wife 20,000 *yuan*. We have more money now. The second son and his wife are still part of my household because my son has a handicapped left hand. It is also necessary to have one child stay at home, to help me with some physically demanding tasks. The other two sons, one daughter, and one daughter-in-law have all migrated. The third daughter-in-law came back after she became pregnant and just delivered a daughter half a year ago. Both daughters-in-laws do not engage in much agricultural work because they have to take care of their children. They have only helped me with transplanting and harvesting.

In July 2007, I went to Zhejiang province to see my sons. They invited me to take some rest, because they understand I have had a very hard life to bring them up and need to relax. I stayed there for half a month.

In August 2007, the second daughter-in-law had an operation and spent 2000 *yuan*. It is lucky that we can get 45 percent reimbursement because two years ago, we entered into a medical insurance contract. This policy is really very good.

All my children are very considerate and never quarrelled. They helped me with agricultural work as much as they could. They sent me money and asked me to hire people in the busy season. My other two sons bought a vehicle for my second son and he is now in the transportation business. My life has become easier since the children grew up. The younger generation is more relaxed than my generation. Our generation is still working hard in the field. When all the children are home, I feel easier because then there are nine pairs of hands to do the work. Now, I often feel very tired because there are so many things to do. One grandson is left for me to take care of. The other four grandchildren are taken care of by their mothers.

Anyway, I am happy because there is no food shortage problem. I have to make decisions about household chores and agricultural production. My husband only knows how to take care of cattle and accepts my decisions. My second son gives all his earnings to me. I go to the market every week to buy daily necessities. I use firewood to cook food in summer, because electricity is expensive with such a big family.

6.5 Discussion and Conclusion

For most households, food security was a problem, both during the collective era and in the early stage of the implementation of the HRS (cases 2, 3, 4, 5, 7, and 8). People had to try their best to provide enough food for their household at the beginning of the HRS era. Now, there are no food security problems anymore. After migration became important, labour shortage became the main problem for most households (cases 2, 7, and 8). Land use and livelihoods are changing. Upland fields are increasingly abandoned. Cash crops are being cultivated, but traditional crops are neglected or have disappeared (cases 2, 3, 4, 5, and 6).

Gender roles are changing. Men and women are more equal now, and women play a greater role in decision-making in several areas. In the collective, women usually did tasks that yielded less work points. There were only a few female village leaders (cases 4 and 8). While the mother-in-law held more power in the past, the daughter-in-law is more powerful at present, because younger women

have more opportunities to get money and can go off if they do not like to be controlled by their mother-in-law (cases 1, 3 and 7). Younger women also do not much like doing agricultural work. Their main purpose is to take care of their young children and to wait for an opportunity and the right time to migrate. The mother-in-law now more often has to take care of the grandchildren.

According to Buyi tradition, women live with their own parental family (*niangjia*) for several years after marriage (*zuojia*). Nowadays, this tradition still exists but the *zuojia* period is shorter. Among the Buyi, there have always been relatively many female-headed households and their number is increasing now (cases 1, 2, 3, and 4). After the introduction of the HRS, the number of female-headed households has increased among non-Buyi people as well, especially since migration has become important. In the collective era, men were village leaders and made decisions regarding the agricultural activities. The decisions on household chores were not as important as those regarding working in the collective fields, because with housework you earned no work points. Since the HRS and the increase of migration, men usually have other sources of income besides agriculture and are not very much involved in agriculture (all cases). Women are making decisions about agricultural activities on top of deciding on household matters. But they rarely make decisions about big events, such as building a house.

The older generations still value land because they depend on it for their survival (all cases). Older women are still busy with managing crops and animals. Women usually do not use small agricultural machines, but their husbands do (case 1). The late 1980s cohorts already began to migrate and brought back a lot of new ideas to their homes in the village (case 6).

The collective era was a difficult period. The stage in which the children are at school, especially at middle school, is also difficult for most households, because tuition fees are high and children of that age have large appetites (cases 1, 2, 3, 6, and 8). When the children grow up and begin to migrate and earn money, the women's lives become easier. Then, women can hire labour to cultivate the land if they feel like it, because they have the extra money to do so. Older women have a heavy burden to carry, because they have had a hard life and now still have to look after the grandchildren and work in agriculture (cases 3, 4, 7, and 8). They see themselves as the most tired and unlucky cohort because they were controlled by their mothers-in-law in the past, but now that they are mothers-in-law themselves could not control their daughters-in-law. In addition, they have to take care of the grandchildren. Nevertheless, the older women are quite happy and feel content with their current life (all cases). They also begin to organize themselves and engage more in recreational activities. Once a household member meets an accident or illness, however, the household's normal or easier life is under many pressures (cases 4, 5, and 8).

Social capital, especially in the form of close kin, plays an important role in giving women a stronger position in the household. Women can always ask help from their natal family *(niangjia*) when they encounter difficulties (all cases). Since migration, grandparents have to take care of their grandchildren and the household division is of less importance. Even if the households of parents and

married children are separate, the grandparents still help out a lot (cases 3, 4, 7, and 8). The exchange of labour was common in the past, but it is decreasing now (cases 1, 2, 3, 4, and 7).

Chapter 7
Livelihood portfolios[20]

In order to get a clear picture of the current livelihood situation of the rural households in the cohorts under study, this chapter will discuss the human resources, physical resources, environmental resources, and social resources of the different cohorts. Livelihood portfolios and livelihood activities are also discussed, as well as land use strategies. Related to the issue of livelihood diversification, I will discuss several types of migration in-depth. Finally, this chapter will deal with gender issues in livelihood portfolios.

7.1 Assets and resources

7.1.1 Human resources

To get a clear view on the opportunities and constraints the households in the sample face, we need to look at some background figures that are related to demographic characteristics such as dependency ratios. Table 7.1 gives an overview of the household size, age, and sex composition of the households in our sample. As can be seen from the table, there is no difference in average household size in different cohorts. Overall, the average household size is less than five. There are only 13 households (8.1%) in all cohorts that consist of more than seven members. This means that most households in the sample are nuclear households. The only exception is the 1970s cohort, which contains more stem households and extended families in which three or even four generations together form a household. The differences in household size are, however, not significant between the cohorts. In the 1970s and 1980s cohorts, the labour force is bigger (with a smaller proportion of school going children and/or elderly people within the households). The sex ratio does not differ much between cohorts, although the 1970s and 2000s cohort consist of many more men than women. For the 1970s cohort, this probably means that the unmarried son(s) still stay(s) at home. In the 2000s cohort, sons probably still live with their parents and unmarried siblings as well.

[20] The survey was conducted in January, 2008 and most quantitative data in this chapter are about the situation in 2007.

Table 7.1 Household size, age and sex composition according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Household size										
2-3	13	26.5	7	17.1	3	7.3	8	27.6	31	19.4
4-6	28	57.1	32	78.0	36	87.8	20	69.0	116	72.5
>7	8	16.3	2	4.9	2	4.9	1	3.4	13	8.1
Age group (years)										
0-6	13	5.6	6	3.2	15	8.0	34	25.8	68	9.2
7-17	15	6.5	24	12.7	63	33.7	9	6.8	111	15.0
18-59	167	72.0	153	81.0	96	51.3	68	51.5	484	65.4
>60	37	15.9	6	3.2	13	7.0	21	15.9	77	10.4
Sex										
Male	128	55.2	98	51.9	93	49.7	74	56.1	393	53.1
Female	104	44.8	91	48.1	94	50.3	58	43.9	347	46.9
Total population	232	100.0	189	100.0	187	100.0	132	100.0	740	100.0
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Household size	4.7	1.9	4.7	1.2	4.5	1.2	4.6	1.2	4.6	1.4

Pearson chi-square test for household size: no significant differences found.
Source: Farm household survey, 2008.

Table 7.2 shows that the average age of the 2000s cohort is similar to that in the 1990s cohort. This is the case because some household heads in the 2000s cohort are older, because the younger couples have only just formed their own households and their parents still register as household head (*de jure* household head) in the registration certificate, *hukoubu*. In fact, the younger ones are *de facto* household heads (also see chapter 6). The table also shows that the household heads of the 1970s cohort are significantly less educated than those of other cohorts, although the education level drops for the 2000s cohort. This can be attributed to the fact that this cohort counts relatively many female household heads. In this cohort, many *de jure* household heads, mostly male, migrate. Some come back temporarily for the busy harvesting season, but others stay away the whole year round. Most household heads in the 1970s cohort and 1980s cohort were living at home in the past 12 months.

Table 7.2 Characteristics of the de-facto household head according to cohort and sex

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Age										
20-29	0	.0	0	.0	0	.0	6	20.7	6	3.8
30-39	0	.0	1	2.4	22	53.7	16	55.2	39	24.4
40-49	0	.0	23	56.1	18	43.9	3	10.3	44	27.5
≥50	49	100.0	17	41.5	1	2.4	4	13.8	71	44.4
Sex (household head)										
Male	33	67.3	26	63.4	25	61.0	20	69.0	104	65.0
Female	16	32.7	15	36.6	16	39	9	31	56	35
Education year(s)										
1-6	31	63.3	14	34.1	15	36.6	11	37.9	71	44.4
7-9	14	28.6	22	53.7	22	53.7	14	48.3	72	45.0
>9	4	8.2	5	12.2	4	9.8	4	13.8	17	10.6
Months staying at home										
Not at home	0	.0	0	.0	2	4.9	2	6.9	4	2.5
Less than 3 months	1	2.0	1	2.4	5	12.2	7	24.1	14	8.8
3-6 months	0	.0	3	7.3	2	4.9	5	17.2	10	6.3
More than 6 months	48	98.0	37	90.2	32	78.0	15	51.7	132	82.5
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	57.82	4.54	47.27	5.33	39.12	5.6	38	13.06	46.73	10.87
Education (yrs)	5.76[a]	3.26	7.68[b]	2.46	7.63[b]	2.20	7.03[ab]	3.21	6.96	2.9***
Months at home	3.96[a]	.29	3.88[ab]	.40	3.56[bc]	.90	3.14[c]	1.03	3.69	0.7***

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
,,*** significant at the 10%, 5%, and 1% level, respectively.*
Source: Farm household survey, 2008.

Migration is very popular among all the cohorts (see Table 7.3), although there are more migrants in the 1970s and 1980s cohorts. The number of migrants in the 1970s cohort is significantly higher than that in the 1990s and 2000s cohorts. Yet, the number of migrants in the 1980s cohort is not significantly different from that in the 1990s and 2000s cohorts. The 1970s cohort households have a larger labour force than the other cohorts, and almost all the children have reached adulthood. Unmarried children usually migrate. There are fewer children in the 1980s cohort than in the 1970s cohort and some children are still of school going age. In the 1990s and 2000s cohorts, more children need to be taken care of, so some household members have to stay at home for this task. For all the cohorts, the main migrants within the households (the ones who migrated first, for a longer time, or

the ones who earn more) are younger people. The older people prefer to migrate circularly (local circular migration includes migration within the county, commuting, or migration for a shorter period than 6 months; see chapter 3). In general, while in the 1970s and 1980s cohorts the children migrate, in the 1990s and 2000s cohort this is done by the husband or wife.

Table 7.3 Household migration status according to cohort

	1970s cohort		1980s cohort		1990s cohort		2000s cohort		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Migration numbers[1]	1.9[a]	1.0	1.8[ab]	.9	1.4[b]	.5	1.3[b]	.5	1.7	0.9*
Age of main migrant[2]	27.2[ab]	6.2	24.1[a]	7.8	34.4[ab]	9.5	31.2[b]	5.0	30.8	9.3***
Age of main circular migrant	41.9[a]	17.1	45.5[a]	5.2	38.6[b]	5.3	36.0[b]	10.0	27.7	7.9**

1/ Migration includes long-term migration and short-term, circulatory migration.
2/ Main migrants are those who migrate earlier or longer or earn more, compared to other migrated household members, based on the interviewees' perspective.
One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
,,*** significant at the 10%, 5%, and 1% level, respectively.*
Source: Farm household survey, 2008.

The working hours (including those of all adult labourers older than 18) spent on agricultural crops for the eldest cohort (1970s) are higher than those in other cohorts (see Table 7.4). The reason is that both husband and wife are working in agriculture and do not engage in circular migration or long-term migration. In addition, the labour force in the 1970s cohort is bigger. In the 1980s cohort, some husbands are migrating circularly, thus giving less time to agriculture. Not only is the labour force of the other two cohorts smaller, but they are focusing on migration activities as well. In this respect, however, there is no significant difference between the cohorts. The results for the total number of working hours for the households are similar, although it is significantly higher for the 1970s cohort as compared to the 1990s and 2000s cohorts. This cohort contains more labourers, as indicated above. With regard to human resources, we can thus conclude that while the education and the possibilities for earning remittances have increased over the cohorts, the actual number of labourers has gone down.

Table 7.4 Total working hours and working hours in agriculture, according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Working hours in agriculture										
<36	3	6.1	6	14.6	4	9.8	7	24.1	20	12.5
36-72	16	32.7	24	58.5	20	48.8	9	31.0	69	43.1
>72	30	61.2	11	26.8	17	41.5	13	44.8	71	44.4
Total working hours										
0-36	2	4.1	2	4.9	2	4.9	4	13.8	10	6.3
36-72	11	22.4	15	36.6	16	39.0	10	34.5	52	32.5
72-108	24	49.0	16	39.0	20	48.8	11	37.9	71	44.4
108-300	12	24.5	8	19.5	3	7.3	4	13.8	27	16.9
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
In agriculture	82.8	36.8	66.2	32.8	66.1	26.2	67.7	38.8	71.5	34.2*
Total hours	97.9[a]	39.4	85.2[ab]	35.8	76.4[b]	26.6	76.7[b]	39.5	85.3	36.4**

One-way ANOVA test

Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).

*,** *significant at the 10% and 5% level, respectively.*

Source: Farm household survey, January 2008.

7.1.2 Physical and financial resources

After the overview of human resources, we will now focus on the physical and financial resources of the households in our sample. As can be seen in Table 7.5, the paddy field holding is significantly higher for the 1970s cohort as compared to the other cohorts (see Table 7.5). Fifteen of the 49 households in the 1970s cohort have paddy fields larger than eight *mu* (15 *mu* = 1 ha), while only two of the 41 households in the 1980s cohort have such an amount of paddy field. Because the land allocation was conducted in 1980 and 1981, only a few of the households in the 1980s cohorts got land, but they have had more children after they formed their own households. In the 1990s and 2000s cohorts, the households only got paddy fields from their parents. For upland, there is no significant difference between the cohorts. Upland is not as important as paddy fields are, because the staple food is rice, which is not easy for the villagers to give up. Upland, on the other hand, is easy to reclaim and where some villagers give it up, others will get their allotted land. In the first few years of the HRS, villagers reclaimed a lot of upland. Some households reclaimed the land once they were free in the non-busy season.

Table 7.5 Landholdings according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Paddy field										
0-4 mu	21	42.9	26	63.4	24	60.0	18	62.1	89	56.0
4.1-8 mu	13	26.5	13	31.7	12	30.0	9	31.0	47	29.6
>8 mu	15	30.6	2	4.9	4	10.0	2	6.9	23	14.5
Upland										
0-4 mu	27	55.1	27	65.9	26	63.4	18	62.1	98	61.3
4.1-8 mu	13	26.5	9	22.0	12	29.3	9	31.0	43	26.9
>8 mu	9	18.4	5	12.2	3	7.3	2	6.9	19	11.9
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Paddy rice land	6.29[a]	4.63	3.8[b]	2.70	4.53[b]	3.59	4.27[b]	2.89	4.83	3.75***
Upland holding	4.43	3.64	3.82	2.77	3.71	2.86	4.26	3.17	4.06	3.14

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
**** significant at the 1% level.*
15 mu = 1 ha.
Source: Farm household survey, 2008.

There are several kinds of houses, ranking from the worst to the best quality: the soil wall house, the tile roof house, the concrete brick house, and the multi-storey house. Most houses are concrete houses with only one floor. There are fewer multi-storey houses (see Table 7.6). Wood houses and soil walled houses are no longer common, but they were during the collective period. There are not many differences over the cohorts, although the households in the 1990s cohort do not seem to build very expensive houses. The reason for this may be that they have a higher financial burden because of their children's educational costs. Most houses of the 1970s cohort seem of good quality, but some households still cannot afford to build a new house. The villagers spend a lot of money to build a house. According to the survey data, most of the money from remittances and circular migration income is reserved for building houses. There are no significant differences in asset value and livestock value among the cohorts, even though the youngest cohort has a slightly higher asset value and the older cohorts have higher value livestock. It is clear that older cohorts pay more attention to animal raising than the younger cohorts do.

Table 7.6 Asset value, livestock value, and house characteristics according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
House characteristics										
Storeyed house	10	20.4	7	17.1	5	12.2	5	17.2	27	16.9
Concrete brick house	30	61.2	31	75.6	28	68.3	19	65.5	108	67.5
Tile roof house	7	14.3	2	4.9	6	14.6	5	17.2	20	12.5
Soil wall house	2	4.1	1	2.4	2	4.9	0	.0	5	3.1
Asset value										
<40000	30	61.2	22	53.7	21	51.2	17	58.6	90	56.3
40000-100000	16	32.7	17	41.5	17	41.5	9	31.0	59	36.9
>100000	3	6.1	2	4.9	3	7.3	3	10.3	11	6.9
Livestock value										
<3000	3	6.3	6	17.1	7	19.4	5	19.2	21	14.5
3000-10000	36	75.0	17	48.6	22	61.1	16	61.5	91	62.8
>10000	9	18.8	12	34.3	7	19.4	5	19.2	33	22.8
Missing data	1	2.0	6	14.6	5	12.2	3	10.3	15	9.6
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Asset value	42073	36676	42976	27917	41439	30909	40934	30085	41936	31661
Livestock value	11759	22914	9611	12162	6687	5422	7605	6554	9156	14657
House year of building	1994	14	2001	10	1995	18	1996	13	1996	14*

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
** significant at 10%.*
Source: Farm household survey, 2008.

There is no significant difference in total income across the cohorts (see Table 7.7). The income comes mainly from circular migration, remittances, crop income, subsidy from the government, land reclamation subsidies (discussed in chapter 4), and salary. Income from livestock is not included, due to a lack of data. The households in the 2000s cohort have a comparatively higher income, even though this difference is not significant. The households in the 1980s cohort usually have income from both circular migration and long-term migration. Some households in

this cohort have a higher income. Some households in the 1990s cohort have no labour force to earn cash; they solely depend on agriculture because they have to stay at home to take care of school going children. Their children are mostly in middle school and high school, so they cannot earn enough money. One man from the 1990s cohort said during the interview in Guntang village: "I have the chance to earn cash outside, but I prefer to stay at home and give my children a good education, so their future may improve. I do not want to go off to earn cash and have no time to take care of them". The 1970s cohort is supposed to have a higher income because there are more migrants in this cohort, but it does not show in this table. The possible reason is that the younger migrated children in this cohort do not send many remittances. During several interviews, the villagers mentioned that the children would like to save money themselves. The crop income for the four cohorts is significantly different. There are 23 households (almost half of all households) in the 1970s cohort whose crop income is higher than 6,000 *yuan*, while there are only six such households in the 1980s, 1990s, and 2000s cohort, respectively. There are only four households in the 1970s cohort whose crop income is below 500 *yuan*, but there are 13 such households in the 1980s cohort, nine such households in the 1990s cohort, and ten such households in the 2000s cohort. The 1970s cohort households earn more income from agriculture, because they put more working hours in it and also have more land.

Table 7.7 Income status according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Total income *(yuan)*										
<5000	13	26.5	11	26.8	13	31.7	6	21.4	43	27.0
5000-10000	18	36.7	10	24.4	13	31.7	9	32.1	50	31.4
>10000	18	36.7	20	48.8	15	36.6	14	46.4	66	41.5
Crop income *(yuan)*										
<500	4	8.2	13	31.7	9	22.0	10	34.5	36	22.5
500-2500	11	22.4	14	34.1	14	34.1	6	20.7	45	28.1
2500-6000	11	22.4	8	19.5	12	29.3	7	24.1	38	23.8
>6000	23	46.9	6	14.6	6	14.6	6	20.7	41	25.6
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Total income	10027	8355	11550	9144	8872	6237	14983	19025	11020	10957
Crop income	5097[a]	3443	2760[b]	3351	2996[b]	2954	3656[ab]	4671	3699***	3660

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
*** *significant at the 1% level.*
Source: Farm household survey, 2008.

Fewer than half of the households in all cohorts have savings (see Table 7.8). Although in recent years, more villagers began to have savings, about half of the households still need to borrow money. The main purpose of borrowing money is to build houses, pay for medical expenses, and cover the costs of education. Although they borrow money for building houses, households in the 2000s cohort usually have cash at hand. Households from the other cohorts, however, need to sell produce to get cash for urgent needs. As one man from the 1980s cohort said during FGD 2D: "The younger migrants have cash in their pocket and can use it anytime, but we do not have that". According to the respondents in most FGDs, the 1990s cohort mostly borrows money to pay educational fees and build houses. The 1980s cohort borrows money for curing illnesses, to pay educational costs and to build houses, while the 1970s cohort mostly borrows money to cover medical expenses and to build houses. At the same time, a few households have extra money to lend to others. All in all, there are no significant differences in the credit situation between the four cohorts.

Table 7.8 Credit situation according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Savings										
Yes	21	42.9	14	34.1	12	29.3	14	48.3	72	38.1
No	28	57.1	27	65.9	29	70.7	15	51.7	88	61.9
Money borrowed										
Yes	20	40.8	25	61.0	19	46.3	8	27.6	72	45.0
No	29	59.2	16	39.0	22	53.7	21	72.4	88	55.0
Money lent										
Yes	5	10.2	4	9.8	6	14.6	5	17.2	20	12.5
No	44	89.8	37	90.2	35	85.4	24	82.8	140	87.5
Amount of money borrowed in the past year *(yuan)*										
<2000	6	30.0	8	32.0	4	21.1	3	37.5	21	29.2
2000-10000	9	45.0	13	52.0	11	57.9	2	25.0	35	48.6
>10000	5	25.0	4	16.0	4	21.1	3	37.5	16	22.2
Total HHs	20	100.0	25	100.0	19	100.0	8	100.0	72	100.0
Amount of money lent in the past year *(yuan)*										
<2000	3	60.0	3	75.0	6	100.0	3	60.0	15	75.0
2000-10000	2	40.0	1	25.0	0	.0	2	40.0	5	25.0
Total HHs	5	100.0	4	100.0	6	100.0	5	100.0	20	100.0
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Borrowed (*yuan*)	8953	10377	5924	5613	12125	13838	7079	6454	7759	3530
Lent (*yuan*)	3160	4024	1675	1615	2710	3144	707	567	1953	2602

One-way ANOVA test
Source: Farm household survey, 2008.

Generally, the differences between the households are not as big as they were several years ago. According to self-ranking discussions in the villages of Dabuyang and Dongkou, only a few households classified themselves as either rich or poor. The main reason is that the villagers have more opportunities to make their livelihoods. Each household could find an appropriate strategy according to its resources. Compared with other cohorts, the households from the 1970s and 2000s cohorts were more confident about their economic status in the village (see Table 7.9). Most households in these two cohorts thought that their status was not below average. Yet, for the 1980s and 1990s cohorts, less than half of the households mention that their status is in the middle, and there are relatively more households that mentioned they are below average. The reason is that the households in these two cohorts have more financial burdens, due to payments for education and building houses, while they cannot get support from their parents, as opposed to the 2000s cohort. A wife from the 1990s cohort said in FGD 3A: "These young married households got more dowries from their parents and they only need to spend money for daily needs, but we got less from our parents and we had to buy everything for ourselves when we set up an independent household". Women of the 1980s cohort said in FGD 2C: "We just began to do better financially, but we have to think of the costs of our children's marriages. These children also just migrated and do not have a lot of remittances to send us. We also were allotted less land than our brothers got, because we only had our own houses after the HRS". Apparently, people evaluate their economic status mainly based on their house, land, and migrants.

Table 7.9 Self-evaluation of one's economic position in the village according to cohort

Self-evaluation	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Above average	11	22.4	8	19.5	9	22.0	3	10.3	31	19.4
Average	31	63.3	18	43.9	19	46.3	21	72.4	89	55.6
Below average	7	14.3	15	36.6	13	31.7	5	17.2	40	25.0

Source: Farm household survey, 2008.

The land assets and financial resources are therefore comparable for all four cohorts, although there are some slight differences over the cohorts. The largest differences are found in land ownership and the number of migrants (and, thus, the height of remittances), but hardly any of the differences are statistically significant.

7.1.3 Environmental resources

Most households have tap water (see Table 7.10). There is no big difference among the cohorts. Ninety-five percent of the households can get water within 500 m. The road is accessible by car for 145 households, but in the 1990s cohort, fewer households have access to a road. Their houses are old and in an unfavourable location. The people have now begun to build houses near the main road, which is convenient for them because they use more small agricultural machines. The houses are increasingly more dispersed than they were in the past. The in-depth discussions during data collection show that people like to build houses in convenient locations, and when their land is not located there, they will exchange it with others. There are several rural industries in the municipality, but only a few household members work there. These industries include a pottery factory, a coal-mining factory, an ore-mining factory, and a carbon coke factory. The workers are mainly from remote and poorer places in Guizhou province and the salaries are low, compared to eastern and more industrialized provinces. The households in the 1970s cohort contain the least factory workers, while those in the 1980s cohort contain the most. The 1980s cohort attended development projects more because they have better power sources compared to those in the 1970s cohort, and because they are more motivated. The main energy source is electricity, but most households use coal as their main energy source during winter. Only a few households in each cohort still use firewood as the main energy source all year round. These households are relatively poor and cannot afford the high prices for energy. In recent years, coal has become more expensive, causing even some relatively rich households to complain about the high prices. Older cohorts use firewood more often, while younger cohorts use less, because younger people can pay for electricity and do not like to spend time collecting firewood. Half of all households live more than four kilometres away from the market. Younger people like to ride motorbikes to the market and older people choose walking. According to FGD 3C and FGD 4C, younger women, however, have to walk when they do not live far from the market because they have to bring along their children. However, the younger women are able to ride motorbikes, while the older women are not. According to the interviews with upland men, some older men still use the horse cart to travel to the market. They also use the horse cart to transport manure and to take the produce back home after harvesting. Although younger people prefer to use motorbikes, there are no significant differences between the cohorts.

Table 7.10 Environmental resources according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Tap water										
Yes	38	77.6	32	78.0	32	78.0	20	69.0	122	76.3
No	11	22.4	9	22.0	9	22.0	9	31.0	38	23.8
Car access										
Yes	44	89.8	40	97.6	34	82.9	27	93.1	145	90.6
No	5	10.2	1	2.4	7	17.1	2	6.9	15	9.4
Work in the nearby factory										
Yes	1	2.0	5	12.2	4	9.8	3	10.3	13	8.1
No	48	98.0	36	87.8	37	90.2	26	89.7	147	91.9
Project participation										
Yes	12	24.5	15	36.6	6	14.6	7	24.1	40	25.0
No	37	75.5	26	63.4	35	85.4	22	75.9	120	75.0
Main source of energy										
Electricity	39	79.6	31	75.6	34	82.9	23	79.3	127	79.4
Coal	2	4.1	0	.0	1	2.4	2	6.9	5	3.1
Firewood	7	14.3	8	19.5	3	7.3	3	10.3	21	13.1
Other	1	2.0	2	4.9	3	7.3	1	3.4	7	4.4
Marketing transportation										
Motor	13	26.5	23	56.1	21	51.2	13	44.8	70	43.8
Bicycle	0	.0	0	.0	1	2.5	0	.0	1	.6
Walking	34	69.4	18	43.9	19	46.3	16	55.2	87	54.4
Horse cart	2	4.1	0	.0	0	.0	0	.0	2	1.3

**Pearson Chi-square test: no significant differences found.*
Source: Farm household survey, 2008.

7.1.4 Social resources

There are 92 households that participate in different kinds of organizations. More than half of the households in each cohort are engaged in organizations (see Table 7.11). There are no big differences between the cohorts. The main purpose of participating in organizations is to obtain credit. Some formal groups are intended to save labourers, such as the collective cattle-raising group (Sun, 2007). They also get together for some social activities, e.g. singing folk songs, dancing, organizing tours, or attending special festivals. Again, in this respect, there are no big differences over the cohorts. As indicated in Chapter 4, younger people and women have their own groups for getting credit and other purposes, but there are no big differences between the cohorts in this respect, either. Older people also form groups with younger people for many purposes, like obtaining credit, festival attendance, and so on. In addition to the credit groups, relatives are very important for the villagers to solve money shortage problems. If they need to borrow money, the bank is also important for the villagers because it is easier to borrow money from the bank than several years ago. In the past, some households in the 1980s

and 1990s cohort have had to borrow money from a professional private moneylender because they urgently needed it, even though they had to pay higher interests. According to participant observations and interviews, professional private moneylenders were more common in the past than they are nowadays, because villagers generally have more money (see Table 7.12).

Table 7.11 Participation in organizations according to cohort

	1970s cohort		1980s cohort		1990s cohort		2000s cohort		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Participation in organization										
Yes	27	55.1	22	53.7	25	61.0	18	62.1	92	57.5
No	22	44.9	19	46.3	16	39.0	11	37.9	68	42.5
Total HHs	49	100.0	41	100.0	41	100.0	29	100.0	160	100.0
Main purpose to participate in organization										
Agricultural technology	1	3.7	0	.0	0	.0	1	5.6	2	2.2
Credit	18	66.7	15	68.2	20	72.2	13	71.7	66	71.7
Saving labourers	4	14.8	3	13.6	2	8.0	2	11.1	11	12.0
Other	4	14.8	4	18.2	3	12.0	2	11.1	13	14.1
Total HHs	27	100.0	22	100.0	25	100.0	18	100.0	92	100.0

**Pearson Chi-square test: no significant differences found.*
Source: Farm household survey, 2008.

Table 7.12 Sources for borrowing money according to cohort

Places	1970s cohort		1980s cohort		1990s cohort		2000s cohort		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Private money-lender	0	.0	2	8.0	1	5.3	0	.0	3	4.2
Bank	8	40.0	7	28.0	6	31.6	3	37.5	24	33.3
Relatives	12	60.0	15	60.0	10	52.6	4	50.0	41	56.9
Friends	0	.0	1	4.0	2	10.5	1	12.5	4	5.6
Total HHs	20	100.0	25	100.0	19	100.0	8	100.0	72	100.0

**Pearson Chi-square test: no significant differences found.*
Source: Farm household survey, 2008.

Sixty-six households (53.2%) mentioned that they do not have difficulties when they need to borrow money. There are not many differences between the cohorts. The villagers are willing to help each other in difficult times. Only one respondent in all the cohorts said that he is not sure whether the neighbours would like to work with him. The others are sure that their neighbours will work with them. Most villagers mentioned during most interviews that the biggest worry when lending money to others is that they might not be able to reimburse. This was a

serious problem in the past, which has improved nowadays because more villagers have extra money to lend to others.

Siblings are very important for rural households. They help each other in many ways, such as providing free labour, money, information, working opportunities, and other important needs. The number of siblings on the husband's side living in the same village is different for each cohort: the older cohorts have more siblings living in the same village than the younger cohorts do, but this difference is not highly significant (see Table 7.13). The number of the husband's siblings living in other villages is not significant, even though households in the 1980s and 1990s cohorts have more of them. The people who belong to these two cohorts were born mainly during the 1960s and 1970s, when a birth wave took place in the aftermath of the famine of 1958. For this reason, their number of siblings is higher than for the 1970s cohort. Furthermore, some siblings of the people in the 1970s cohort who have passed away were not included in the table. In the 1980s, family planning was implemented, causing people in the 2000s cohort to have fewer siblings, even though this difference is not very significant. The number of siblings on the wife's side living in the same village differs over the cohorts: the youngest cohort has fewer siblings in the same village. In most of the FGDs, respondents mentioned that more young women got married outside their village because they had migrated and did not need to be introduced to their husbands by their siblings, as was common in the past. In remote villages, on the other hand, wives and their husbands may come from the same village. Most siblings are engaged in agriculture, but the older cohorts have more siblings who are government officials. In the past, there were more reasons and opportunities for villagers to work for the government, such as military retirement, government recruitment, or graduation from college, but these have decreased. The younger rural people can only find work for the government if they finish their higher education. Usually, the siblings who work in the government help their relatives a lot. However, since younger cohorts have more migrated siblings than the older cohorts have, they derive less benefit from this. In the key informant interview in Dabuyang village, most respondents pointed out one particular household in the 1970s cohort as once being the richest household in the village. This household became rich when the brothers' friends lent him 5000 *yuan* to buy a grain-processing machine, which was rare in the 1980s. His two brothers are working in the county bureau and have many rich friends. Yet, overall, the social resources do not differ much over the cohorts.

Table 7.13 Profile of siblings according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Husband's siblings in the same village										
<=2	40	81.6	28	68.3	31	75.6	22	75.9	121	75.6
>2	9	18.4	13	31.7	10	24.4	7	24.1	39	24.4
Husband's siblings in other places										
<=2	36	73.5	23	56.1	25	61.0	23	79.3	107	66.9
>2	13	26.5	18	43.9	16	39.0	6	20.7	53	33.1
Does the wife have siblings in the same village?										
Yes	11	22.4	11	27.5	13	31.7	4	13.8	39	24.5
No	38	77.6	29	72.5	28	68.3	25	86.2	120	75.5
Wife's siblings in the same village										
<=2	46	93.9	39	95.1	37	90.2	28	96.6	150	93.8
>2	3	6.1	2	4.9	4	9.8	1	3.4	10	6.2
Wife's siblings in other places										
<=2	28	57.1	13	31.7	15	36.6	11	37.9	67	41.9
>2	21	42.9	28	68.3	26	63.4	18	62.1	93	58.1
Main occupation of husband's siblings										
Farmer	43	89.6	35	85.4	33	82.5	22	78.6	133	84.7
Government official	5	10.4	5	12.2	0	.0	2	7.1	12	7.6
Migrant	0	.0	0	.0	7	17.5	3	10.7	10	6.4
Self-employed	0	.0	1	2.4	0	.0	1	3.6	2	1.3
Missing data	1		41		1		1		3	
Main occupation of wife's siblings										
Farmer	43	93.5	37	90.2	33	82.5	23	79.3	136	87.2
Government official	2	4.3	1	2.4	2	5.0	0	.0	5	3.2
Migrant	1	2.2	3	7.3	5	12.5	6	20.7	15	9.6
Missing data	3		0		1		0		4	

Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Husband's siblings										
in same village	1.2	1.3	1.8	1.5	1.8	1.3	1.4	1.2	1.6*	1.3
in other villages	1.8	1.3	2.4	1.6	2.2	1.6	1.9	1.2	1.9	1.2
Wife's siblings										
in same village	0.4	0.9	0.4	0.9	0.7	1.2	0.2	0.7	0.2	0.7
in other villages	2.3[a]	1.5	3.4[b]	1.8	3.3[b]	1.6	3.1[ab]	1.4	3.1***	1.4

One-way ANOVA test

Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).

,* significant at the 10% and 1% level, respectively.*

Source: Farm household survey, 2008.

7.2 Livelihood activities

Villagers nowadays have more opportunities to diversify their livelihoods, compared to the collective period. There is more rural industry, both throughout China and in nearby places, which provides the villagers with opportunities to engage in non-farming activities. Migrated farmers also provide the farmers who stay behind with opportunities to rent land. The resources for information on how to set up new livelihood activities have increased, since a larger number of villagers have migrated and bring back new information. All in all, opportunities for both farming and non-farming activities are increasing for all households.

7.2.1 Farming

Farming is the villagers' major livelihood activity in Kaizuo. Even though their income from migration is increasing, most people still regard agriculture as their main livelihood activity (see Table 7.14). Only four households in the 1980s cohort, two households in the 1990s cohort, and eight households in the 2000s cohort regard migration (including local circular migration) as their main livelihood activity. The difference between the cohorts is significant. Households in the 1970s cohort mainly work in farming, while those in the 2000s cohort focus more on migration. The older couples from the 1970s cohort expressed the opinion that they work in farming for survival because they were older and could not migrate. They also expressed that they were able to take care of their children's land, houses, and grandchildren, if necessary. In that way, their children can earn money and do not have to worry about anything else. Except migration and circular migration, non-farming activities are not very common. Some households earn an income from trading, transportation, running a small shop, making wine, and renting out land, but those are not their main livelihood activities. Only one household in the 1990s cohort mentioned during the interview in Dongkou village that their main income comes from transportation and running a shop. This household has no rice paddy fields, because they moved back to the wife's natal village but could not get land from her parents according to customary law. Her husband's land is in his village of origin, too far away. She said that this village was better than her husband's village. She has only one brother and her parents were happy that she lived with them. She got a parcel of upland from her parents, but this is too small to feed the household. She is running a grocery shop and her husband is working in transportation and has his own truck.

Table 7.14 Livelihood activities and income sources of the household according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Main household livelihood activities χ^{2***}										
Farming	49	100.0	37	90.2	37	92.5	21	72.4	144	90.5
Migration	0	.0	4	9.8	3	7.5	8	27.6	15	9.9
Other	0	.0	0	.0	1	2.5	0	.0	1	.6
Income sources of the household head χ^{2***}										
1	44	89.8	19	46.3	16	39.0	15	51.7	94	58.8
≥2	5	10.2	22	53.7	25	61.0	14	41.3	66	41.3
Main income activities of the household head: χ^{2***}										
Farming	47	95.9	33	80.5	30	73.2	11	37.9	121	75.6
Other	2	4.1	8	19.5	11	26.8	18	62.1	39	24.4
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Income resources of HH head	1.1[a]	0.3	1.5[b]	0.5	1.6[b]	0.5	1.5[b]	0.5	1.4[***]	0.5
Income of household (crop income is discussed in Table 7.7):										
Remittance	1711	2537	2341	3923	1720	3354	5607	18563	2581	8452
Income from circular work	1388[a]	5940	3962[b]	7258	2546[b]	4744	3345[b]	6098	2699	6094
Subsidies from land converted	299	633	534	799	469	1398	229	473	390	909
Other income	1532	4441	1952	6518	1140	3277	2147	5203	1651	4925

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
**** significant at the 1% level.*
Source: Farm household survey, 2008.

The main income source of household heads for the 1970s cohort is farming, but the household heads of the other three cohorts have more than one source of income. Besides farming, their income mostly comes from migration (including circular migration). The younger cohorts prefer migration, while the older cohorts are still mainly focused on farming. This is significantly different among the cohorts (see Table 7.14). This table also shows that the households from the 2000s cohort have the highest remittance while the households of the 1990s cohort have the lowest even though the differences between the four cohorts are not significant. The reason maybe that the households from the 1990s cohort have the a lower labour force compared to the 2000s cohort even though both cohorts are mainly migrating long-term. Another possible reason is that some migrants are above 35 years old and could not find a better paying job. The income from circular work for the 1970s cohort is the lowest, which can be explained by the fact that older couples mainly focus on farming and their children are mainly migrating long-term. The

1980s cohort has the highest income for land converted. This may be due to the fact that this cohort reclaimed more land in the 1980s because they had fewer land at that time. Now, the land is no longer so important for them and they converted it to forest and get subsidies. Other income sources over the cohorts are not significantly different even though the youngest cohort has the highest.

For Table 7.15 (and later on also for Table 7.18) the dependent variable is dichotomous. Officially one cannot use dichotomous variables within Ordinary Least Squares regression (OLS). This has to do with one of the assumptions of the method, that all variables are measured at interval (or at least ordinal) level. Strictly speaking the dependent variables in my analyses are measured at a nominal level. However, because the variables are coded 1 and 0, a nominal measurement constitutes no problem. If the coefficients are positive (and significant) this will still mean that more of the independent variable leads to more of the dependent variable. Because of the clear interpretation of the coefficients in OLS regression, I prefer this method to other, normally more appropriate methods of analysis (see also Moerbeek, 2001).

Table 7.15 shows that farming has a significant relationship with the gender of the household head, land rent, and livestock value. Female-headed households earn less income from farming. The reason is that when husbands migrate, their wife is the household head. These households also rent out their land. Households with more migrants have a higher asset value, because their farming income is low compared to their income from migration. If they migrate, they rent out their land. Those households with higher livestock value will put more emphasis on farming because their focus is not on migration.

Table 7.15 Factors influencing farming of the household (linear regression)

Variables	Coefficient	Stand error	T-value
Household size	-.007	.017	-.420
Gender of household head (male=1, female=0)	-.266**	.125	-2.122
Education of household head	.000	.007	.018
Rice paddy landholding	-.000	.010	-.002
Upland holding	.014	.010	1.420
Land to rent (yes =1, no=0)	.172***	.050	3.474
Total rice yield	-.000	.000	-.954
Total maize yield	-.000	.000	-.198
Asset value	.000	.000	1.249
Livestock value	-.000***	.000	-3.329
Savings (yes =1, no=0)	.037	.049	.745

***, *** identifies effects that are significant at the 5% and 1% level, respectively.*
Dependent variable = farming (1=yes, 0=no), which means whether farming is the main household livelihood activity or not.
N=160
Source: Farm household survey, 2008.

The income from crops is highly related to the rice paddy landholding and livestock value (see Table 7.16). Rice and maize are the most important crops, as mentioned in Chapter 4. These two products used to be the main income resources. Nowadays, there is more rice and maize to sell because the number of migrants is higher, which causes a decrease in consumption. Yet, villagers also earn crop income from tobacco, watermelon, and other cash crops. Their income from rice is lower compared with those from cash crops, even though these cash crops do not occupy a lot of land. Households with large paddy field holdings usually cannot get a higher income because they have less upland to plant cash crops. The villagers sell more rice, but keep maize for animal feed. They have more maize left to feed more animals than they did in the past. Those with less income from crops do not have enough maize to raise animals, and their livestock value is lower, too. Some households even have to buy maize to feed their animals.

Table 7.16 Factors influencing income from crops (linear regression)

Variables	Unstandar-dized coefficients	Standard error	T-value
Household size	-126.102	200.680	-.628
Gender of household head (male=1, female=0)	-178.004	1499.316	-.119
Education of household head	11.675	87.812	.113
Rice paddy landholding	434.912***	73.900	5.885
Upland holding	-138.101	93.019	-1.485
Land to rent (yes =1, no=0)	191.774	586.904	.327
Asset value	-.008	.009	-.905
Livestock value	.175**	.060	2.619
Savings (yes =1, no=0)	-729.121	575.051	-1.268
Attend organization (yes=1, no=0)	692.438	537.481	1.288

***, *** identifies effects that are significant at the 5% and 1% level, respectively.*
N=160
Source: Farm household survey, 2008.

7.2.2 Land use

In recent years, villagers have begun to rent land more often. About one third of the households in the sample rent land. In the past, only a few households rented land. More households in the 1970s and 2000s cohorts rented out land, while those in the 1980s and 1990s cohort rented land. There is a significant difference in land rent, but not in land rented out for all the cohorts. Households that rented out land usually rented out to several other households, so more households rented land and fewer households rented out land. Households that rented out land usually do not have sufficient labour force, while those renting land do not necessarily have extra labourers. A possible explanation for this is that they had less land but did not have other sources of income. They wanted to get more income from land, even though the benefits from farming are lower.

Table 7.17 Land rent according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Land rented										
Yes	12	24.5	11	26.8	14	34.1	9	31.0	46	28.8
No	37	75.5	30	73.2	27	65.9	20	69.0	114	71.3
Land rented χ^{2*}										
Yes	9	18.4	12	29.3	14	34.1	3	10.3	38	23.8
No	40	81.6	29	70.7	27	65.9	26	89.7	122	76.3
Land rented out										
Yes	6	12.2	3	7.3	1	2.4	4	13.8	14	8.8
No	43	87.8	38	92.7	40	97.6	25	86.2	146	91.3
Abandoned paddy land	3	37.5	1	12.5	2	25.0	2	25	8	100.0
dry land	22	42.3	9	17.3	12	23.1	9	17.3	52	100.0
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Paddy land rented	0.48	1.55	0.95	1.77	0.80	1.50	0.24	0.95	0.64	1.52
Paddy land rented out	0.39	1.10	0.34	1.35	0.24	1.56	0.29	1.19	0.32	1.30
Upland rented	0.16[a]	0.83	0.02[a]	0.16	0.66[b]	1.89	0.34[ab]	1.20	0.29	1.19*
Upland rented out	0.00[a]	0.00	0.13[ab]	0.62	0.05[ab]	0.31	0.22[b]	0.73	0.09	0.47

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
** identifies variables that are significantly different at the 10% level.*
Source: Farm household survey, 2008.

As discussed in Chapter 4 and Chapter 6, people began to abandon paddy fields from 2002 onward, because of labour shortages. Thirty households mentioned that as a reason. Paddy fields are more important for the rural households than upland, because they provide the staple food, rice. Villagers do not leave paddy fields idle but rent them to others to cultivate. Uplands, on the other hand, are abandoned because people are not very interested in them. Some households even ask others to use it for free. Some households have a shortage of labourers and put their rice paddy fields in the first place. A larger number of households in the 1980s and 1990s cohorts rent paddy fields, but the difference with the other cohorts is not significant. Similar to what Feng (2008a) has found, both younger and older household heads are less likely to rent land. There is a significant difference in land rented out for all the cohorts. The younger cohorts like to rent more land and use it to cultivate cash crops, especially in the 1990s cohort. Households in the 1970s cohort do not rent out upland and usually plant diverse crops, so they do not have to work so intensively during the busy season.

The amount of rented land has a significant relationship with the total landholding, but land rented out does not. Feng (2008a) also says that both young and old households tend to work and stay on the farm. This research shows, however, that they also more often rent out land. The reason is that households renting land are households that have less land to begin with. Land-renting households are those that migrate and do not necessarily have less land. The amount of rented out land has a significant relationship with the age and gender of the household head. The reason is that the men in those households usually migrate and women become the household head (see Table 7.18).

Table 7.18 Factors influencing land rented in and rented out (linear regression).

Variables	Unstandardized coefficients		
	B	S.E.	T-value
Land rented in:			
Household size	.024	.023	1.064
Gender of household head (1=male, 0=female)	.279	.187	1.487
Education of household head (years)	.021*	.011	1.894
Age of household head	.001	.005	.221
Months at home of household head	.032	.047	.686
Total landholding	-.025***	.007	-3.526
Age square of household head	.000	.000	.078
Attending organization	.141**	.064	2.207
Land rented out:			
Household size	.007	.016	.431
Gender of household head (1=male, 0=female)	-.237*	.133	-1.785
Education of household head (years)	.000	.008	-.121
Age of household head	.009**	.003	2.474
Months at home of household head	-.047	.033	-1.392
Total landholding	.001	.005	.152
Age square of household head	-.000	.000	-1.098
Attending organization	-.057	.045	-1.253

, **, * identifies effects that are significant at the 10%, 5% and 1% level, respectively.*
Dependent variable= land rent-in or rent-out (yes=1, no=0).
N=160
Source: Farm household survey, 2008.

Rice, maize, and rapeseed are the three main crops for most households. Rapeseed is grown after the rice or maize are harvested. Rapeseed is used for edible oil. The yields of rice and rapeseed differ significantly between the four cohorts, but the yields of maize do not (see Table 7.19). The households of the 1970s cohort have the highest yields of rice and rapeseed, and significantly higher than those in the 1980s cohort. The reason is that households of the 1980s cohort have the lowest paddy landholding and could not get higher yields even if they rent land. For both rice and maize, the average yield per mu for all cohorts shows no significant differences even though the older cohorts have a little higher average yield. One thing is that the 1990s cohort has a lower average yield for both crops, for which lower labour force still can be regarded as a factor.

Table 7.19 Yield of three main crops according to cohort

Yield	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Rice	2664[a]	1843	1669[b]	1463	1820[ab]	1621	1926[ab]	1690	2060[**]	1702
Maize	981	853	964	800	863	960	877	650	929	832
Rapeseed	381[a]	214	208[b]	173	315[ab]	216	275[ab]	215	301[***]	213
Average yield per mu										
Rice	422	195	395	208	371	187	393	183	397	193
Maize	258	155	288	194	211	169	212	141	246	169

One-way ANOVA test

Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).

***, *** identifies variables that are significantly different at the 5% and 1% level, respectively.*

Source: Farm household survey, 2008.

Other important crops are potato, soybean and other leguminous plants, sweet potato, sunflower, tobacco, watermelon, and other fruits. All these crops are cultivated in the upland, not in the paddy fields. Older cohorts plant more diversified crops, while the younger cohorts plant more tobacco and watermelon. The income from different crops differs across cohorts, but not significantly. Households of the 1970s cohort have the highest and those of the 1990s cohort have the lowest income from crops (see Table 7.20). Income from the three main crops is significantly different, as discussed above. Usually, households of the 2000s cohort give land to their parents to manage, according to most FGDs. Their crop income is not so low, because their parents give the product income to them. Households in the 1990s cohort, however, manage their own land and depend on their parents less. They have formed their own households many years ago and their parents usually give them less help. Once these households of the 1990s cohort have a migrant, they do not have enough energy to manage other crops and thus get less income from other crops.

Table 7.20 Income from other crops according to cohort

Variable	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Income from other crops	1093	2224	739	1118	405	596	847	1809	781	1594

One-way ANOVA test
Source: Farm household survey, 2008.

7.2.3 Migration

Migration is very common in the sampling households. Here, I would like to categorize migration into two categories. The first is long-term migration, in which the migrant leaves for more than three months and usually works in a place far away. The other is the short-term migration/circular migration/commute: the migrant usually works in a nearby place and may commute, or come back for no longer than one month in each circular migration period and stay outside fewer than three months. Both migrated and circular workers are regarded as migrants. In this research, I will treat the circular migration households and migrant households separately, because circular workers can still engage in agricultural production, while migrants cannot.

One hundred and thirty-six households have migrants or circular workers. Based on the criteria of long-term migration and circular migration discussed above, three types of households can be categorized: long-term migrant households (Type 1), short-term circular migration households (Type 2), and non-migrant households (Type 3) (see Table 7.21).

The long-term migration household (Type 1)**:** the migrant in this household goes off for more than three months and usually works in a place far away, which makes it impossible to come back frequently. These households may also have a short-term circular worker.

The short-term circular migration household (Type 2)**:** the circular migrant in this household usually works in a nearby place, and may commute or come back often. He or she usually stays away for no longer than one month in each circular migration period, while the total circular migration time is less than three months each year. There is no long-term migrant in this kind of household.

The non-migrant household (Type 3): there is neither migrant nor circular worker in this type of household.

The average household size is 4.63, without big differences between the three types. The difference in education of the household head is significant: for non-migrant households (Type 3), the average number of years of education is 7.7, while it is only 6.47 years for Type 1. Most households in Type 1 are from the 1970s cohort. The aged couples are usually less educated. In Type 1, 30 households have both migrated and circular workers. These households are usually from the 1980s cohort. Other characteristics of the survey households will be discussed below.

Table 7.21 Selected characteristics of households according to migrant status

Household types		N	Household size	Household head's education (years)	Migrants (individuals)	Average migrant's age	Average circular migrant's age
Migrant households (Type 1)	Without circular migration	76	4.68	6.47[a]	1.90	24.6	0
	With circular migration	30	4.77	7.14[ab]	1.17	21.0	42.5
Circular migration households (Type 2)		30	4.47	7.43[ab]	0	0	40.5
Non-migrant households (Type 3)		24	4.62	7.70[b]	0	0	0
Total of households		160	4.63	7.20*	1.54	22.8	41.5

One-way ANOVA test
Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).
** identifies variables that are significantly different at the 10% level.*
Source: Farm household survey, 2008.

The oldest migrant is 52 years old, while the youngest is aged 16. The average migration age is 22.8. The average age for a circular migrant is 41.5. Older people prefer circular migration over long-term migration. While one reason is that it is not easy for them to find a job, another reason is that their labour is needed in agricultural production during the busy season. More men than women have migrated. Sixty-one percent of all migrants in the sample are men, while 39 percent of the migrants are women. For 88.4 percent of the migrants, the main reason for migration is a lack of money. Only 4.5 percent gave as a reason that their landholding is too small and could not feed their households. The main migration places are not in Guizhou province, as 82.6 percent of the interviewees in migrant households mention. It is not easy to find a job in Guizhou province, so they usually go to industrialized provinces, e.g. Guangdong, Jiangshu, and Zhejiang. Of the migrant households, 72.6 percent receive remittances. This remittance is mainly used to save for building houses, and for daily food and clothes. Only 11.5 percent of the sample households mention that it is used for agriculture. Most interviewees say that more migrants means that the household has more extra grain to sell, and that the income from this can be used for agricultural input. The grain-processing machine's owner in Dabuyang village mentions that he earns less because more grain is sold, and there is no need for the villagers to process more grain for their own consumption. He mentions that, in the past, he used to earn 10 *yuan* every day processing rice, but that is has decreased to only 6 *yuan* now.

Livelihood diversification is a survival strategy of rural households. Migration is a form of livelihood diversification (Niehof, 2004). Migration has increased in China's rural areas in the past ten years. The cases in which both husband and wife migrate are also increasing, especially where younger couples

are concerned. They migrate because they can earn money for a better life and for covering the costs of their children, even though they meet problems during the migration process. At the same time, they are concerned about land management, their children's education, and care for their parents. In the next section, I will discuss the migrated household more thoroughly.

7.2.4 Migrated households

As discussed in Chapter 5, during the conduction of the survey, we met members of migrated households because they came back for the Spring Festival. We did an additional survey among 24 migrated households. We defined a migrated household as a household of which both husband and wife have migrated, with or without their children. In most cases, the children were left at home with their grandparents. These children are called 'left behind'. These households are still registered in this municipality as farmers and still have land in the villages.

We interviewed 24 migrated households, including 17 husbands and seven wives. The average age of the interviewee was 33.3. The oldest interviewee was 45 and the youngest was 26. Eighteen interviewees were younger than 35 and only three interviewees were older than 40.

Based on household formation year, the migrated households are mainly from the 2000s cohort, namely 11 of the 24 households. There is no migrated household in the 1970s cohort. Four households are from the 1980s cohort and nine households are from the 1990s cohort. Eight households are in life stage 1, 14 households are in life stage 2, and two households are in life stage 3 (see Chapter 5) (Table 7.22).

Table 7.22 Type of migrated households according to cohort and life stage

Cohorts	*HHs based on marriage year*	*Percent (%)*	*HHs based on household formation year*	*Percent (%)*	*Life stage 1*	*Life stage 2*	*Life stage 3*
1980s	6	25.0	4	16.7			2
1990s	9	37.5	9	37.5		14	
2000s	9	37.5	11	45.8	8		
Total HHs	24	100.0	24	100.0	8	14	2

Source: Farm household survey, 2008.

All migrated households are *de jure* male-headed households. Nineteen households are both *de* facto and *de jure* male-headed, only five households are *de jure* male-headed and de *facto* female-headed. This shows that the husband is still the main household head if both are together. The migrated household size varies from three to seven, while the average household size is 4.25. Other characteristics are listed in Table 7.23. The average education of the household head is 7.42 years. The average number of adult labourers is 2.83. The average number of children is 1.67 and the average number of 'left behind' children is 1.41.

Table 7.23 Characteristics of migrated households

Household size (individuals)	HHs head's education (years)	Number of adults (above 18) (individuals)	Number of children (individuals)	Left-behind children (individuals)
4.25	7.42	2.83	1.67	1.41

Source: Farm household survey, 2008.

Migration time

Table 7.24 shows that migration has become more popular among the households in the past five years. Twenty-three households migrated within the last five years and only one household migrated more than five years ago.

Reasons for migration

Table 7.24 shows that the main reason for migration is a lack of money, which 18 households mentioned. The second reason is land pressure, as indicated by 13 households, while eight households mention that opportunity is another reason. Opportunity usually means that relatives have already become familiar with the factory in the place of migration and can help them find a job, which acts as a pull factor to attract these couples to migration.

Table 7.24 Migration years and reasons of migrated households

Migration years[1]	N	Migration reasons[2]	N
1 year	5	Lack of money	18
2 to 5 years	18	Land pressure	13
More than 5 years	1	Opportunities	8
Total	24		39

1/ migration years indicates the years that both husband and wife migrate together.
2/ some households have more than one reason to migrate.
Source: Farm household survey, 2008.

The migration of the interviewed couples cannot be explained by their higher education because the average education of the migrated household head is similar to that of other household heads. Most answered that they could not make as much profit from agricultural production as before because of a higher input, which forced them to migrate. One young migrated couple, Chen and Yi, mentioned that many elderly people coming from other provinces are working in the same flower-making factory as they are. They mentioned that the reason for the Kaizuo elderly to not go off is that they have no confidence and are worried they will not find a job. It is true that more factories prefer to employ younger migrants, especially when they are below 35. In several FGDs of cohort 1 and cohort 2, the elderly

people expressed that, although they would like to migrate, they worry about the agricultural land and about finding a job. They also mentioned that they have to look after their children's land, house, and children, which prevents them from going. They said that when nobody is at home, it means that the household is not like a household at all, because they regard their village household, not the temporary urban household, as their true household. Their land and their registration *hukou* are still in the village.

The survey data show that the most important motivation for migration is to earn more money for building a house and for raising children. Agricultural production becomes less and less profitable and people feel pressured to support their family. Their lives have improved after migration, but they worry a lot about their children and parents.

Remittances

The average migrant's income is more than 1000 *yuan* monthly. Usually, men get higher salaries than women do. Twenty-three households mentioned that their annual income is five to ten times higher than their income from agriculture. The income of only one household is even more than ten times higher. They had extra money to send remittances. Twenty-three households sent remittances back to their families, while only one household does not do so. This household was newly formed and the couple spent their money on building a house and their wedding ceremony.

All households sent remittances to support their parents and to pay for the tuition fees and maintenance of the children. They deposited money in their place of migration and their parents could then withdraw money from nearby municipal banks. In some households, where the parents are not familiar with the money withdrawal procedures, they ask the child who has not migrated to withdraw money.

In informal group discussions with older cohorts in Dabuyang village, Dongkou village and Guntang village, many parents mentioned that they received the remittance and mainly used it for their grandchildren, even though their migrated son and daughter-in-law told them to use it for their own benefit. Parents only used the money for urgent events, e.g. buying seeds or fertilizer, and hiring labourers. Parents mentioned that they gave more to their grandchildren after they had obtained cash by selling produce. Three households indicated that they sent remittances for building new houses. In informal discussions, many villagers said that they could not have built nice and new houses without long-term migration remittances.

Land management

According to the survey, the land transfer is mainly done between relatives and in the same village. Eleven households gave land to their parents to cultivate. Three households rented land to siblings and three households rented to other relatives. Only seven households rented land to neighbours and friends. Those who gave

land to their parents usually get grain from them when the need arises. Those who rented land to others usually ask to be paid back with particular products. None of the households asked a rent fee.

Only four households were worried that the land they had rented out would deteriorate, while 20 households mentioned that there was no such effect. Some households did not rent out their lands and let them lie abandoned, because fewer and fewer villagers like to rent land, especially in the past two years. Feng (2008a) has found that large land endowments may have difficulties in renting out land if there is no perfect land rental market. This may happen when migration is increasing. Some villagers do not realize what problems land abandonment may cause. During the interview, one man in Guntang village even told me that it was good to let land go fallow for a short period because the land can accumulate more nutrition in a fallow period. However, this thought is too optimistic. If land is left fallow for a longer time, this may have a negative impact.

Migration problems

The survey shows that the largest difficulty migrated couples met during the long-term migration process was bad living conditions. They are not used to the climate and food in the working places. Some people got sick but could only take a little rest, because they wanted to earn more money. Many couples worry about 'left-behind' children and parents. About 90 percent of the surveyed households installed a landline for convenient communication with migrated parents and 'left-behind' children. Three interviewees mentioned that working conditions were uncomfortable. Two people stated that the education fee for their children's schooling is high. Only two households experienced no difficulties. All respondents said that they overcame all difficulties while they tried their best to earn more money.

Migrating back

None of the couples in the survey said they would not come back. Similar to what Lou (2004) mentioned for China, most migrants never think of migrating to the city permanently. Only one person mentioned that it is not clear when he will come back, because he needs enough money to build a house. He just formed his household and the son is only eight months old. Most households plan to stay away longer than two years. Only three households planned to come back the next year. Eleven respondents replied that they will return within five years, while nine respondents will be back five years later. Those intending to return soon put forward health problems as a reason, or that their parents and children really need to be taken care of. Two male respondents said that they will continue their migration and that their wife will be able to return anytime soon. They think that it is better to have one person at home to take care of their children, parents and land.

Twenty of the 24 couples mentioned that they had not learned any useful skills and will only be able to work in farming after their return. They usually

conduct non-farming activities when they are away. After her investigation of migrants in Hangzhou, Huang (2005) has concluded that women do not learn useful skills. People come back and continue to work in farming. Likewise, Lou (2004) has found that most women came back and still live as farmers. Two households had no planning because it is not clear when they will come back, while only two households plan to go into business.

Following below are three cases to illustrate the issues of migrated households. These households were randomly selected for an in-depth interview. The three cases are only from the 1990s and 2000s cohorts because the 1980s cohort contains only a few cases and the 1970s cohort contains none. Their household's daily costs are higher because of a household member's illness or the maintenance cost of the children. Their main motives for migration are that they are looking for better living conditions and want to escape the low profits of agriculture and small landholding. They earn money and most couples send remittances for taking care of their children and parents. They mainly give land to their parents and relatives to cultivate. Yet, their future plan still is to come back to their hometown to work in agriculture; they are not planning to stay migrated forever.

Case 1: the disease-suffering wife

*Yi (aged 31) and Shenbin (aged 31) migrated four years ago. They went to Zhejiang province. Shenbin has had respiratory problems since she was a child. They have two children, aged 12 and 7, left at home for the grandparents to take care of. Their paddy field is only three mu (*15 *mu=1 ha.). They rented it to a neighbour to cultivate and got 300 kg of rice from the neighbour in the past year. They migrated because they needed money to cure Shenbin's illness and for bringing up their children. Yi got 1700 yuan per month and Shenbin got 1200 yuan.*

They phone their children every now and then. The elder daughter usually answered, while the younger son did not say very much. He has developed a close relationship with his grandparents since his parents are not at home. They miss their children a lot, even though the grandparents take care of the children very well.

Wife Shenbin mentioned that her main problem was to find a cure for her sickness in their place of long-term migration. This is because the medical co-op management procedure is very complicated. It is difficult and more expensive to see a doctor in their place of migration. She travelled back several times every year to cure her disease. Most of their income was spent on travelling and seeing the doctor. She came back in October and would like to return to the village because it is easier and cheaper to see the doctor there, and she could then take care of her children, too. When I interviewed her, she was ill and stayed at home to rest.

Case 2: the migrated newly-wed couple

Chang (26 years old) and Xiaofang (22 years old) met each other in a clothes-making factory in Jiangshu province. Both of them migrated at the age of 16. Chang got six years

of education, while Xiaofang only got one year of education. Both earn 1300 yuan per month. They got married in 2006 and their son is just eight months old. They are staying with his parents, even though they formed their own household, because they need his parents to look after the baby. They are planning to earn enough money to build their own house, which is the main purpose of their migration. It is not clear when he will come back. They could not bring their son because he needs to be taken care of. They would be unable to earn more money if they have to look after their son. They missed their son when they were away, so Xiaofang came back in the harvesting season to take care of her son and help her parents-in-law with harvesting. The parents are older than seventy, but still help them to cultivate the land. They also worry about their parents' health and the management of their land, but they have no choice and plan to migrate again after the Spring Festival, to earn money for a new house and for bringing up the child. They have only two rooms in the village, given to them by their parents when they got married.

Case 3: the couple with small landholdings

Qi (aged 31) and Gaiyao (aged 28 years) just came back for the festival and were about to leave the next day when I interviewed them. This couple migrated three years ago to work in a toy factory. Three years ago, Gaiyao had a serious illness and borrowed a lot of money, which forced her to migrate to pay back the loan. She told me that she would not come back until she is old enough to find a job outside the village. Her husband has three older brothers and all got married after the land allocation. Each of them only got a limited amount of land, which produces insufficient yields to support four households. Their landholdings are the smallest in this village. Two brothers have already migrated. Gaiyao is illiterate but she is strong. She migrated earlier with another woman, and then she brought her husband and her younger child half a year later. The older child was left with its grandmother, even though the grandmother is 80 years old and is already taking care of two grandchildren. The land was rented to a brother to cultivate. She does not care about land very much because it is really a very small patch, two mu of paddy field and three mu of upland. She built a new house last year, which still needs to be painted. She said that she is still earning money to finish the house. I found that there is no furniture at their house, but they installed a landline telephone to be able to keep in contact with their left-behind son.

7.3 Gender and livelihood portfolios

Women and men differ, both in the labour they do and in their choice of livelihood strategies. In all the cohorts, the majority of the households are *de jure* male-headed households (see Table 7.25).

There are no *de facto* and *de jure* female-headed households in the 2000s cohort. Examples of this type of household in other cohorts are those in which the husbands are government officials, have passed away, or are *shangmenlvxu* (see Chapter 6). None of these circumstances applies to the 2000s cohort in this research.

Table 7.25 Household type according to cohort and household head

Household types	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
De facto and *de jure* male-headed	33	67.3	26	63.4	25	61.0	20	69.0	104	65.0
De jure male-headed, *de facto* female-headed	14	28.6	13	31.7	14	34.1	9	31.0	50	31.2
De facto and *de jure* female-headed	2	4.1	2	4.9	2	4.9	0	.0	6	3.8

Source: Farm household survey, 2008.

The survey shows that the work in the nearby factory is done by men, not by any of the women. Both husbands and wives attend the government projects (see Chapter 4) and they usually attend jointly (see Table 7.26). Women in the younger cohorts attend the project more often, but there is no significant difference between the cohorts. In all the cohorts, husbands and wives usually join organizations together, and there is no significant difference between men and women with regard to organization membership. There are many kinds of informal organizations such as *zahui* (see Chapter 4), which men and women attend because it is in their interest. Women may attend more credit and dancing organizations, while men may attend more formal groups, e.g. the village committee.

Table 7.26 Gender difference in livelihood activities according to cohort

	1970s cohort (%)			1980s cohort (%)			1990s cohort (%)			2000s cohort (%)			Total (%)		
	M	F	J	M	F	J	M	F	J	M	F	J	M	F	J
Project attendance	8.3	8.3	83.3	13.3	6.7	80.0	.0	33.3	66.7	14.3	14.3	71.4	10.0	12.5	77.5
Organization attendance	18.5	29.6	51.9	34.8	13.0	52.2	15.4	26.9	57.7	21.1	15.8	63.2	22.1	22.1	55.8

Note: M: male; F: female; J: jointly.
Source: Farm household survey, 2008.

There are significantly more male than female migrants. The average number of male migrants within the households is 1.1, while that average for female migrants

is only 0.4 (Table 7.27). The number of both female and male migrants differs significantly between the four cohorts. The number of male migrants in the 1970s cohort is higher than in other cohorts, and is significantly higher than in the 1990s cohort. The number of female migrants in the 1980s cohort is higher than in other cohorts, and significantly higher than in the 1990s and 2000s cohorts. All focus group discussions in cohort 1 and cohort 2 show that the main migrants in the 1970s and 1980s cohorts are the children in the household: "Almost all unmarried children go off to earn money and nobody wants to stay at home to work in agriculture. The older people also want to go off, but it is difficult for them to find a job because many factories only employ people below 35". For these two cohorts, it is normal to have two migrants within the household, while there is usually only one migrant in the younger two cohorts' households. In the 1970s cohort, the children are older; most daughters are already married and only the sons are still household members. In the 1980s cohort, most sons and daughters are still unmarried. For the circular work, there is only one wife from the 1980s cohort who did circular work with her husband when her husband had bid a contract to build a village road. All the other circular workers are men for each cohort. As mentioned before, people normally migrate to other provinces to earn money because it is difficult to find a job in the county. So, they rarely go to farther places and work only three months (as circular work). They normally work for longer than nine months. In the survey, there are only several wives of the 2000s and 1990s cohorts who worked outside for three to six months because they had to come back to take care of their children. If there is a job in nearby places, it is normally men who do that, such as mining, transportation work, construction work.

Table 7.27 Male and female migrants according to cohort

	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Male migrants	1.3[a]	0.6	1.1[ab]	0.7	0.8[b]	0.7	0.9[ab]	0.5	1.1[*]	0.7
Female migrants	0.5[ab]	0.7	0.6[a]	0.8	0.3[b]	0.5	0.2[b]	0.4	0.4[**]	0.7

One-way ANOVA test

Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).

**, ** identifies variables that are significantly different at the 10% and 5% level, respectively.*

Source: Farm household survey, 2008.

Women spend more time in agriculture than men do, especially in the younger cohort, because young husbands migrate more often (Table 7.28). Women have the responsibility for household work as well as for farm work. This is different from the findings of Jacoby, who found that: "women spend more time on average in housework and non-farm business activities than in farm work" (Jacoby, 1992: 285). Rice and maize are the two major crops for the local people. Men and women pay more attention to these two crops and regarding this, there is no significant difference between the four cohorts. Most household members try their best to return in order to work on these two crops even if they have migrated, or households exchange labourers to finish the tasks for these two crops. With regard to other crops, however, the working hours are not the same for men and women. Younger men usually migrate long distance or leave for circular work outside the busy season, leaving the younger women to do more work. If the households are not migrated households, men's and women's tasks to care for the two major crops are not significantly different. For them, the planting and harvesting periods of rice and maize are the busy seasons, and the other periods are the non-busy seasons. Women more often raise animals than men, the same as Jacoby (1992) has found in the Peruvian Sierra. They also make more decisions. This is similar to what Chen (1996) has indicated: female Chinese farmers often make decisions, not because they have the power base to do so, but simply because they have to when the husband has migrated.

Table 7.28 Daily working hours of men and women on crops per season according to cohort

Variables	Sex	1970s cohort (N=49)		1980s cohort (N=41)		1990s cohort (N=41)		2000s cohort (N=29)		Total (N=160)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Rice											
Busy season	M	12.7	6.2	11.4	6.3	10.4	4.4	10.1	7.7	11.3	6.2
	F	12.6	5.0	11.8	5.0	10.4	5.0	11.9	5.8	11.7	5.2
Non-busy season	M	1.9	2.3	1.4	1.7	1.4	1.4	0.9	1.3	1.4	1.8
	F	1.9	2.1	1.6	1.6	1.7	1.7	1.4	0.9	1.7	1.7
Maize											
Busy season	M	12.5	5.8	10.6	6.7	9.5	4.4	10.1	7.2	10.8	6.1
	F	12.7	4.8	11.5	5.6	10.1	4.5	12.7	6.2	11.4	6.3
Non-busy season	M	1.9	2.1	1.5	2.0	1.3	1.4	0.9	1.1	1.4	1.8
	F	1.8	2.0	1.5	1.6	1.9	1.8	1.4	1.2	1.7	1.7
Other crops											
Busy season	M	9.5	4.4	10.1	7.2	10.8	6.1	12.7	4.8	11.5	5.6
	F	10.1	4.5	12.7	6.2	11.4	6.3	10.4	4.4	10.1	7.7
Non-busy season	M	1.4[a]	1.4	0.9[b]	1.3	1.4[ab]	1.8	1.9[ab]	2.1	1.4	1.6
	F	1.7[a]	1.7	1.4[b]	0.9	1.7[ab]	1.7	1.9	2.3	1.6**	6.7
Total of working hours in agriculture [a]											
All crops	M	39.9	22.2	35.9	25.2	34.8	19.5	36.6	24.2	37.8*	23.1
	F	40.8	20.1	40.5	20.9	37.2	21.0	39.7	20.8	38.2	29.3

One-way ANOVA test

Total of working hours in agriculture are counted as four days: one day for rice, maize,rapeseed and other crops, respectively.

Superscripts with the same letter across the row are not significantly different from each other (alpha =5%).

*, **, *** *identifies variables that are significantly different at the 10%, 5% and 1% level, respectively.*

Source: Farm household survey, 2008.

7.4 Conclusions

The assets and resources of the four cohorts are different. Older cohorts have more labour force and most of the children can feed themselves. There are large differences in landholding between the 1970s and 1980s cohorts: the households in the 1970s cohort have more land than the 1980s cohort, while more households in the 1980s cohort rent land. Although migrated households have smaller landholdings, this does not necessarily mean that most migrated households have less land than others. Siblings of the younger cohorts live farther away than those of the older cohorts and the younger migrants migrate through the introduction of

these relatives and friends. The livelihood strategies of the four cohorts are not the same. The main livelihood strategies are farming and migration; only a few households have other main income resources. The younger cohorts earn more income from non-farming activities. Younger cohorts prefer to migrate; most households in the 2000s cohort are migrated households. Households in the 1990s cohort, however, leave the wife at home to look after the land, the elderly, and the children. There is almost no migrated household that wants to stay away forever. Most consider it as a temporary strategy to earn more money. The migrated households rarely work on agriculture during migration and rarely learn other useful skills for any future development as well, so they can only come back to continue farming. Their migration income is mainly used for building houses and to pay the children's education fees. Some households rent out land because of a labour shortage, but this does not mean that those who rent those lands have extra labourers. Rather, they hire people to cultivate it, they have machines, or they abandon bad quality land and rent good quality land. This finding is similar to what Feng (2008b) has found: households renting land achieve a higher technical efficiency.

Older men and women usually do not migrate, while only a few of them migrate circularly. Younger wives migrate less than husbands, but most wives have migrated before they got married. Almost all unmarried men and women migrate and have no interest in agriculture. After they get married, they still plan to migrate to earn money (Lou et al, 2004). When comparing migrated households with migrant households, I have found that the majority of households prefer to have one person stay at home to take care of their land, their house, and their children and parents. Usually women are left at home. Migrated households also live with the assumption that the wife can go back anytime, or that the wife has returned home more often during earlier migration experiences. In the informal discussion, I also got the information that the husband usually earns more than the wife does, because the husband usually has tasks that require physical strength (e.g. in construction), which are better paid, even in the same factory. Most children are left at home with relatives, especially grandmothers, to look after them. Migration increases married women's burdens but also produces some benefits, such as money and women's higher status (Lou et al, 2004; Murphy, 2004). Particularly elderly women, however, have more burdens.

Chapter 8
Farming households and the Household Responsibility System

This chapter describes household changes of different cohorts after the implementation of the Household Responsibility System (HRS). These changes include marriage, household formation, household composition, and residence. Changes also occur with regard to the livelihood portfolio of households, their land use, and cropping patterns. Gender roles change in different cohorts. This chapter also discusses the motives for migration for different households, the impact of the HRS on households in the 1970s and 1980s cohorts, and the impact of migration on all cohorts. The issue of food security is also addressed for both the collective period and during the early stage of the HRS. The data used for this chapter mostly come from thirteen Focus Group Discussions (FGDs) that were held from July to September in 2008.

8.1 Marriage and household formation changes

Marriage and household formation changed after the implementation of the HRS. The HRS gives rural households the autonomy to manage their own production, freeing up more labour, especially during the non-busy season. Both short-term circular work and long-term migration are increasing. Migration gives younger people more opportunities to meet each other. A diversified and increased income allows couples to have a good start during their household formation stage.

FGDs with both men and women in the 1970s cohort (FGDs 1A, 1B, 1C, 1D) show that these were arranged marriages. The couples got married through an introduction by relatives and neighbours. They had few opportunities to meet each other. Because it was difficult to get transportation and communication was limited to the nearby villages, the wife usually came from a nearby village in the same municipality. The couples formed their independent household after they had their first child, but they hardly got anything from their parents. When they got married, it was still the collective era. At that stage, most parents could not feed their family well because most households still borrowed staple food from the collective and had to return this the next year. Usually, the dowry was less than 100 *yuan*. The custom was to use ceremonial candy at the wedding, but there was no candy shop in the municipality. It was the task of the man's relatives to come ask for the marriage. In the FGDs, people stated that *"it is definitely impossible for the woman's relatives to ask for marriage"*. Buyi women had the tradition to practice *zuojia* (Chapter 4). They went back to their parents' house (*niangjia*) after the wedding ceremony and only came to live with their husband after they had become pregnant. The wife was supposed to help her parents-in-law in the busy season with their agricultural production, upon her husband's request. They usually stayed with their parents for two or three years. The longest example in this research is seven years. There were several husbands (*shangmenlvxu*) who came to stay with their wife's parents, because these parental households only had

daughters (even though the mothers delivered several children). Because the medical treatment was not very good at that time, more children died. Mothers-in-law were very unhappy when daughters-in-law delivered two daughters. In this situation, the mother-in-law pushed the young couple to establish their own household, even if the husband was the youngest or only son, which showed her unhappiness. The young couple would then start a separate household, but usually stayed in the same building because they did not have the money to build a new house. The parents had no money to build a new house for them, either.

FGDs with both men and women in the 1980s cohort (FGDs 2A, 2B, 2C, 2D) show that most of their marriages were arranged. Only a few marriages that took place at the end of the 1980s were not arranged. They often got a higher dowry of several hundred *yuan*. The wife also bought cloth and made the clothes for the wedding herself. They usually established their own household after the birth of the first baby. Few built their own houses, but most stayed in the same building as their parents.

FGDs with women in the 1990s cohort (FGD 3A and FGD 3C) show that some of their marriages were arranged, but most were not. They had more chances to meet each other. Even though they met each other upon their own initiative, they still had to get permission for courtship from the prospective husband's family is still necessary. As the participants related: *"The traditional marriage procedure gives the wife a higher position in the household, because she was courted by the husband's parents and relatives*". Both families discussed the engagement and wedding ceremony. The participants have the idea that a courtship involving the parents resulted in both a higher position and a higher dowry for the wife. The couple got several thousand *yuan* as dowry to get married. The common dowry includes a motorcycle and a TV. The husband's parents arranged furniture. They usually established their own household after the birth of the first baby. The parents usually built new houses for their married sons (depending on the number of children). At the start of their marriage, the newlyweds got nicer and more rooms, but they would still eat together with the parents until the first baby was born.

FGDs with women from the 2000s cohort (FGD 4A and FGD 4C) indicate that most of them know their spouses from meeting in the market, at the festival, or in the working place. Marriages are no longer arranged. But after the decision to get married had been made, the husband's parents and relatives still needed to discuss the engagement and the arrangement of the wedding ceremony with the wife's parents (*suomei*). Some even got married after the wife became pregnant or already had a first baby. The dowry cost is increasing, especially in the last three years. It is usually above 15,000 *yuan*. Both newlyweds already have their own savings, which they can use to buy furniture and other goods they like. Some households even bought a fridge, a washing machine, a colour TV, a motorcycle, and a DVD-player. The number of wives coming from a place faraway is increasing; some even originate from other provinces, like Guangxi and Anhui. It is more common for young women to marry and live in other provinces because their husband is from another province. Marriage patterns are still patrilocal and the wife is required to live in her husband's hometown. The first thing young couples think about is building a nice house, for which they use their migration

income. The rooms parents-in-laws gave to them do not meet their requirements. Some have even built their own house before marriage. More and more of them do not care too much about a household division, because they will still migrate and leave their children with their parents, even if they have their own households. They said in the FGD 4A: *"Once you build your own house, you automatically establish your own household".* The result is that, for the young couples, household boundaries are not clear, because the support they receive from the parents(-in-law) is increasing.

8.2 Household composition and residence

As discussed in Chapter 7, the average household size for all cohorts is about 4.5. For the 1970s and 1980s cohorts, the household size was bigger when they were in household life stage 1 and 2 (Chapter 5), because they have more children and these children were still at home during those two stages. These two cohorts usually have more than three children, whilst the younger two cohorts have less than three children. In Guizhou province, the Chinese family planning policy was implemented in the early 1980s and rural people can have two children. This rule, however, was not strictly applied to the villagers in this research. In general, the rule was applied less strictly to ethnic groups. For this reason, in this study, some younger households have more than two children, even if it is uncommon.

Table 8.1 Household division situation and building year of the current house

	1970s cohort (N=49)		**1980s cohort (N=41)**		**1990s cohort (N=41)**		**2000 cohort (N=29)**		**Total (N=160)**	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Household division	30	61.2	32	78	33	80.5	19	65.5	114	100
No household division	19	38.8	9	22	8	19.5	10	34.5	56	100
Period	Before 1980		1980-1989		1990-2000		After 2000			
Newest houses	17		12		37		94		160	100

Source: Farming household survey, 2008.

The results from FGDs 1A, 1B,1C,1D and FGDs 2A,2B,2C, 2D show that couples from the 1970s and 1980s cohorts had to stay in the same building as their parents, even after they formed their own household. This was mainly due to spatial constraints. The younger cohorts also share meals (and buildings) with their parents, even after officially forming their own households, because they have migrated and have left their children with the parents. They come back for shorter visits. Households of the 2000s cohort do not have an interest in separating their household from that of their parents, because they are working elsewhere (Table 8.1). Some households in the 1990s and 2000s cohorts still share meals with their parents, even though they have formed their own household. They do not want to separate from their parents completely because the parents can take care of their

land and children. In the past, the daughter-in-law used to take care of agricultural activities because this was too strenuous for the parents. Currently, things are changing. Nowadays, the mother-in-law takes care of agricultural activities, while the daughter-in-law takes care of the children if both are at home. The daughter-in-law is more powerful than she used to be in the past and has a stronger influence on the household division. Table 8.1 shows that household division is common for all cohorts. It increased from the 1980s cohort (78% of 41 households) to the 1990s cohort (80.5% of 41 households). But it seems that, for the 2000s cohort, the wish to divide the household has decreased (65.5% of 29 households) compared to the earlier cohorts. Table 8.1 also shows that an increasing number of households have built new houses. From the households in the sample, 58.7 percent built their houses after the year 2000. Between 1980 and 1989, only 7.5 percent of the sampled households built a house. The increase is linear over the years. During the collective era, not only the number of newly built houses was much lower, the quality of houses was poor as well. There were no concrete or brick houses and houses usually had only one storey. Besides that, several brothers used to share one building after they got married.

The above findings show that, since the HRS, households are undergoing many changes in terms of marriage, formation, composition, and residence. Meanwhile, the household's livelihood is changing, too. The following section will discuss livelihood changes, including land use.

8.3 Household livelihood portfolios, land use and cropping patterns

Data from the all the FGDs show that after the HRS, household livelihood portfolios have become more diversified, especially for younger cohorts. Long-term migration and local circular work are the main income-generating activities for the younger marriage cohorts. Circular work is also common for the 1980s cohort. Land use and cropping patterns are changing in general. In the collective era, the collective decided about land use and crop cultivation. Most crops were local varieties. The farming household could only decide about what to grow in their own home garden. After the HRS, farming households realised a more diversified land use. Some rent land and others rent out land. More cash crops and fruit trees have been introduced, while local crop varieties are decreasing. Some have even gone extinct. In the collective period, men and women's division of labour in agricultural production was clearer than it is now. In the early years of the HRS, people raised pigs and chickens in order to get money for their household's daily costs. Some people sold chickens to buy a year's supply of edible oil. As can be seen from Table 8.2, nowadays, it is no longer necessary to sell stock; the farming households now mainly raise chickens for their own consumption. In addition, they raise pigs for both consumption and marketing.

8.3.1 Household livelihood portfolio changes

After the HRS, household livelihood has been changing. This section mainly discusses livelihood portfolio changes for the households in the research area, compared to the situation in the collective era. The data in Table 8.1 mainly come

from our group discussions with elderly groups and key informant interviews. Some also come from participant observation.

Table 8.2 Livelihood portfolio changes

Livelihood activities	Collective era	1980s to 2000s	At present
Farming	Common	Common	Common
Raising pigs	Less common	Common	Common
Raising swine	Absent	Common	Less common
Raising cattle	Less common	Common	Common
Raising ducks	Absent	Less common but increasing	Common
Raising chickens	Absent	Common	Common
Goat raising	Absent	Less common	Less common
Growing fruit trees	Less common	Common and increasing	Common
Growing cash crops	Absent	Common and increasing	Common
Growing local varieties of rice, maize	Common	Less common and decreasing	Less common and decreasing
Growing local varieties of local crops	Common	Common and decreasing	Less common and decreasing
Harvesting wild vegetables	Less common	Less common and decreasing	Common and increasing
Harvesting medicinal herbs	Common	Less common and decreasing	Common and increasing
Local agricultural employment	Absent	Less common	Less common
Making wine	Less common	Common	Common but decreasing
Making tofu	Less common	Less common	Less common
Making charcoal	Less common	Less common but increasing	Less common
Grain processing	Absent	Less common	Less common
Running a factory	Absent	Absent	Less common
Construction	Less common	Common	Common
Small business	Absent	Less common but increasing	Less common but increasing
Carpentry	Common	Common but decreasing	Less common
Transportation	Absent	Less common	Less common but increasing
Mining	Rare	Increasing	Common
Migration	Rare	Increasing	Common
Land rent	Absent	Less common	Less common but increasing
Home garden	Common	Common	Common

Source: Focus group discussions and interviews, 2007-2008.

Both FGDs with men and women from the 1970s cohort indicate that their main livelihood was farming when their children were young, which was during the

collective era (Table 8.1). One key informant from cohort 1 in Dongkou village said: *"everybody wanted to earn work points by performing farm activities in exchange for more food"*. All tasks were arranged by the collective, except the activities in home gardens. Raising animals was not common because the food production was not even sufficient to meet human needs. Growing cash crops and fruit trees was less common. The government did not promote these; it only promoted rice production (the staple food) to solve the food security problems. There were more local crops, such as wheat, sesame, and oat. The collective arranged an opportunity to migrate for a few skilled men. Tasks like house construction and mining were allocated to these skilled men, in exchange for more work points than farming would have brought them. They had to bring their own tools, however, and the work was often dangerous because worksites were not well facilitated and safety conditions were poor.

After the implementation of the HRS, the households from the 1970s cohort put all their efforts in their farmland. Some land was also more productive because it was newly reclaimed and thus more fertile. As FGDs participants in cohorts 1 and 2 said: *"It was really highly productive; even though we did not use a lot of organic manure at that time, the land was very rich in nutrition"*. In the late 1980s and early 1990s, they began to grow high-yielding crops and food security problems were solved. In the first decade of the HRS, agricultural productivity vastly increased. Farmers began to raise animals, although not in high quantities. Still, raising animals was a main income-generating activity at that time, next to cultivating crops. People sold animals and grain when they needed to pay their children's education fee or urgently needed cash. They also tried to make wine and tofu to earn money. In the 1990s, men engaged in circular work and only a few migrated. If they migrated, they usually did so within the same province. Nowadays, their grown-up children have migrated, but they themselves are not strong enough to find a job. To add to their earnings, people from this cohort collect wild vegetables and sell them to businessmen. A few of the households from this cohort run small shops in the village. Since the road was constructed or repaired, it has become easier for businessmen to reach the villages to buy agricultural products, but a lot of improvement is still required.

Most households from the 1980s cohort put a lot of effort into agriculture when their children were young because they just formed their households in the early HRS period. Raising animals and cultivating crops were their main income-generating activities. They sold animals and grain when they needed money for their children's education fee or some other urgent use. In the 1990s, households from this cohort began to plant other cash crops, such as watermelon and fruit trees. In addition, men started to do local circular work, which has increased over the recent 20 years. Some men and a few women have migrated, but migration, especially long-term migration is not very popular among this cohort. A few households also began transportation businesses to earn money.

In the 1990s cohort, migration really started after a household's formation. From the couples who married in the early 1990s, the husbands migrated when the children were two or three years old. Once the children are in middle school and high school, costs increase, so the couples had to find ways to increase their income. Some couples migrated together (Chapter 7). If they did stay at home to

look after their children and land, they engaged in agriculture. Yet, most were looking for opportunities to move away. Those who got married in the later 1990s usually had already migrated before they got married. Most couples migrated again after their children were older than one, leaving these children at home with their grandparents. A few households also began transportation businesses to earn money, while some started to work as vendors.

In the 2000s cohort, almost everybody migrated before marriage. They have no interest in agriculture and most do not have much knowledge about agricultural management. Some husbands work circularly, because this enables them to look after their land and children. Most stay at home temporarily and plan to migrate when it is possible. One wife with a five-months-old baby in Dongkou village said: "*Now, I have no choice and have to stay at home to take care of the child. But I will migrate as soon as my son can walk and I will leave him behind with my parents and parents-in-law".* Some couples are working in transportation or vending, or they run a small shop. Some households migrate when their children are big enough to be left at home with their grandparents. Only a few households bring their children along.

8.3.2 Land use and cropping pattern changes

As discussed in Chapter 4, in Kaizuo, land was allocated to the households to manage in 1980-1981. During the land distribution period, the policy and information were not very clear. At first notice, the contract term was only three years, after which the land would have to be given back to the collective, so people did not pay much attention to the fairness of its distribution. Some people did not even want to get more because they did not have enough labourers and were insufficiently motivated to manage the land.

The major crops in Kaizuo are rice, maize and rapeseed. The other crops include sunflower, chilli, potato, sweet potato, peach, plum, strawberry, watermelon and tobacco. Land use has been changing since the implementation of the HRS. In the collective era, more land was left uncultivated. At the beginning of the HRS, more households reclaimed land and occupied it as their own. Later, due to the increasing out-migration, a labour shortage prevented cultivation of all the land. Some lands (mainly upland) were abandoned, despite its good quality. Abandoning low-quality land is common altogether. Almost no household would abandon rice paddy field because rice is the staple food, but abandoning upland is increasing. Cropping patterns are also undergoing change. There were more local varieties in the collective and early HRS periods. Now, less young people remain in the area and the consumption of grain and agricultural products is decreasing. As one grain processor in Dabuyang said, *"I get less income than I got before because more households sell their raw agricultural products and do not come to process them for their own consumption. It was more than ten yuan per day in the past, but now, I can only get seven or eight yuan".* The villagers mainly cultivate local crops, such as millet, sorghum, and oat for their own consumption. Since consumption is decreasing, more varieties are facing the danger of going extinct.

During the collective area, when their children were young, the households from the 1970s cohort planted more local varieties. They managed their

home gardens very well, even though the amount of land was usually small. After the HRS, the most important thing was to solve food shortages, so they began to use hybrid crops and put more organic fertilizer on the field for higher yields. During the 1990s, most rice crops were hybrid varieties, and more hybrid maize varieties were used as well. Nowadays, the households from this cohort no longer have a food security problem. Nevertheless, they still plant more local varieties because they like to have more diversified crops to feed their families. They do not want to buy crops in the market. They also cultivate cash crops and fruit trees, but preferably not on a large scale and always with risk avoidance in mind. The households in this cohort are the most inclined to renting land because they have no other ways to make money. Some households in this cohort rent out land because of a labour shortage. Especially during the peak season, they are very busy. In FGDs 1C, 1D, 2C, 2D, people mentioned that it is normal for the farmers to lose several kilos of weight after planting season and harvesting season because of the intensive work.

The couples from the 1980s cohort manage both agriculture and circular work. Most often, the husbands will go out for circular work and come back for agricultural production in the busy season. Some households rent land. Compared with the households in the 1970s cohort, the couples have more energy because they are younger. Few households rent out land. Their children usually migrate and can already feed themselves. There is not too much pressure to earn money other than to prepare for their children's weddings. Only a few households (mainly households of the late 1980s cohort) still have to pay their children's education fee. The cohorts of the 1970s and 1980s used to plant potato and sweet potato to feed the animals, since the traditional pig feed technology required cooking the feed. Due to the new pig feeding technology, cooking potatoes and sweet potatoes is required less often. From the 1990s onward, the government has implemented the agricultural development project, while the CBNRM project (Chapter 4) has stimulated the extension of hybrid rice, maize, and fruit trees cultivation. The 1980s cohort, like the 1970s cohort, met food security problems when their children were younger, in the 1980s and early 1990s. They therefore tried to plant higher-yielding crops, but also got the idea to plant more diversified crops for their children's consumption.

Households from the 1990s cohort usually have experience with migration, especially long-term migration; they have thus been exposed to the world outside their own area of origin. When they return to the area, they plan to raise animals and cultivate land on a large scale and with mono-crops, but their input is too low. For this reason, few households own land and animals on a larger scale. They still balance their income from cultivation and long-term migration, and prefer to migrate long-term again. Some households rent land and a few households rent out land if they are at home. More people rent out land or give it to their parents to manage if they migrate. Some households in this cohort also planted potato and sweet potato in the early 1990s, to raise animals. They had some experience with agriculture because they helped their parents when they were young.

In the 2000s cohort, most households rent out land or give it to parents to manage when they migrate. If the couples of this cohort stay at home, the wife

manages the land, while the husband only helps in the busy season. The rest of the time, he will be involved in circular work or in running a business. Some husbands migrate and thus cannot help their wife on the land. The households in this cohort in general do not plant diversified crops, not even for their children to eat. They get the more diverse products from their parents or buy them in the market. They have more money to buy products because of their income from migration and circular work. Their priority is to look after their children as best they can. This cohort wants to assure a better education and care for their children. One young wife with a four-year-old son in Dabuyang village said:

> *"I am lazy and stay at home and always forget the paddy field. My parents-in-law are more involved with the field than I am. My main task is to take care of my son and the land because my husband has a job in transportation and can only help in the busy time. But I like to watch TV and play mahjong and don't care about the land very much. My husband earns enough money to cover our costs and the land also produces enough products for us, even though I do not spend more time on it".*

This cohort also had some knowledge of agricultural production, however limited, at the time they formed their own households, because they did help their parents a lot when they were at school age. After their marriage, they depend on their parents for land management. This cohort does not pay attention to diversified crops and prefers to buy in the market, or to get products from their parents.

All cohorts mentioned in the FGDs that local plant varieties are diminishing and newly introduced crops are of increasing importance.

8.4 Food security

As discussed above, there was a food security problem in the collective era and in the early years after the implementation of the HRS. Different cohorts have different perceptions of food security. In the collective era, households from the 1970s worked in the field every day, but still could not feed their households. They borrowed food from the collective, while some even collected wild vegetables and crops as staple food. The households could feed themselves after several years of the HRS. However, their staple food did not solely consist of rice[21]. They had to eat rice mixed with maize, potatoes, and sweet potatoes. In the late 1980s and 1990s, a few households could not yet afford to eat only rice as their staple food, and still had to mix it with maize, especially in upland villages. Since the recent decade, the food security problems are completely solved. The government provides the poorest households with grain. The government's support increased from 50 kilogrammes annually to hundreds of kilogrammes annually. The gap between rich and poor is decreasing. In the past, some people did not even have enough food. Now, there are more opportunities for people to earn money and higher-yielding crops were introduced. The criteria for rich and poor are different for the

[21] In Kaizuo, eating rice as staple food is looked upon as a sign of having a good life and eating maize is seen as a sign of being poor.

different periods. Households were categorized according to their cattle, pigs, and labourers in the past. House quality and possession of a truck are the main indicators at present.

In the 1990s cohort, almost no households met food security problems after their household formation. The 2000s cohort's households have no food security problems. They worry about new problems with food, such as their children eating less rice but more snacks with low nutritional value, such as potato chips, instant noodles and candy. The male group discussion's participants in Dongkou village (FGDs 1 B and 2 B) mention that the number of fat people is increasing in the villages because of overeating. Unsafe food, the product of the increasing environmental pollution, caused by the increase in the use of chemical pesticides, is another problem.

The local people also collect wild vegetables and fruits to sell in the market or to sell to the vendors. A mixed group discussion in Dongkou village and Dabuyang village shows that the older cohorts collect these to make more money. The younger cohorts rather see it as a leisure activity. They have money to buy fruits, meat, and products from the market. Some children participate in the activity, too, to earn money for candy and toys.

8.5 Gender

As discussed in previous chapters, gender roles regarding livelihood, the division of labour, and decision-making are different for different cohorts and life stages. The following section will continue the discussion, focussing mainly on the changes in gender roles.

8.5.1 Gender and livelihood change

Table 8.3 and Table 8.4 elaborate on the livelihood portfolios of men and women. They engage in different livelihood activities during different stages in the life course, and these activities change over time. These data mainly come from our group discussions with elderly male and female groups. Some also come from participant observation.

Table 8.3 shows that the current common livelihood activities for men are farming, raising pigs, raising cattle, growing fruit trees, construction, mining, and migration. Table 8.3 and Table 8.4 show that construction, carpentry, mining, grain processing, digging coal, raising cattle, and migration are more common for men. Raising swine, harvesting wild vegetables and medicinal herbs, making tofu, and local agricultural employment are more common for women. Home garden management is definitely women's domain. Most livelihood activities involve both men and women, but they may carry out different tasks. For example, in running a small shop, women are mainly responsible for the buying and selling, while men carry the heavy goods from wholesale markets/shops. In construction, men are responsible for brick building and women for carrying sand and cement. In this situation, men carry out the skilled tasks, while women carry out physically demanding and unskilled tasks. Both men's and women's livelihoods are changing. It was interesting to notice that making wine used to be a common task

for women, but as soon as it became a commodity, it also became a common activity for men to engage in. Older women from the 1970s and 1980s cohorts are still undertaking various agricultural activities, but younger women from the 1990s and 2000s cohorts favour migration over agriculture.

Table 8.3 Men's livelihood activities

Livelihood activities	**Collective era**	**1980s to 2000s**	**At present**
Farming	Common	Common	Common
Raising pigs	Less common	Less common	Common
Raising swine	Absent	Common	Less common
Raising cattle	Less common	Common	Common
Raising ducks	Absent	Less common but increasing	Less common
Raising chickens	Absent	Less common	Less common
Goat raising	Absent	Less common	Less common
Growing fruit trees	Less common	Less common and increasing	Common
Growing cash crops	Absent	Less common but increasing	Less common
Growing local varieties of rice, maize	Common	Less common and decreasing	Less common and decreasing
Growing local varieties of local crops	Common	Common and decreasing	Less common and decreasing
Harvesting wild vegetables	Less common	Less common and decreasing	Less common but increasing
Harvesting medicinal herbs	Less common	Less common and decreasing	Less common and increasing
Local agricultural employment	Absent	Less common	Less common
Making wine	Less common	Less common	Less common
Making tofu	Less common	Less common	Less common
Making charcoal	Less common	Less common but increasing	Less common
Grain processing	Absent	Less common	Less common
Running factory	Absent	Absent	Less common
Construction	Less common	Common	Common
Small business	Absent	Less common but increasing	Less common but increasing
Carpentry	Common	Common but decreasing	Less common
Transportation	Absent	Absent	Less common
Coal-mining	Rare	Common	Not common
Mining	Rare	Increasing	Common
Migration	Rare	Increasing	Common
Land rent	Absent	Less common but increasing	Less common but increasing

Source: Focus group discussions and interviews, 2007-2008.

Table 8.4 Women's livelihood activities

Livelihood activities	Collective era	1980s to 2000s	At present
Farming	Common	Common	Common
Raising pigs	Less common	Common	Common
Raising swine	Absent	Common	Less common
Raising cattle	Less common	Less common but increasing	Common
Raising ducks	Absent	Less common	Less common
Raising chickens	Absent	Common	Common
Raising goats	Absent	Less common	Less common
Growing fruit trees	Less common	Less common and increasing	Common
Growing cash crops	Absent	Less common but increasing	Less common
Growing local varieties of rice, maize	Common	Less common and decreasing	Less common and decreasing
Growing local varieties of local crops	Common	Common and decreasing	Less common and decreasing
Harvesting wild vegetables	Less common	Less common and decreasing	Common and increasing
Harvesting medicinal herbs	Less common	Less common and decreasing	Common and increasing
Local agricultural employment	Absent	Less common	Common
Making wine	Less common	Common	Less common
Making tofu	Common	Common	Less common
Grain processing	Absent	Less common	Less common
Running a factory	Absent	Absent	Less common
Construction	Absent	Less common	Less common
Running a small business	Absent	Less common but increasing	Less common but increasing
Migration	Absent	Less common and increasing	Common and increasing
Home garden	Common	Common	Common
Land rent	Absent	Less common but increasing	Less common but increasing

Source: Focus group discussions and interviews, 2007-2008.

8.5.2 Gender changes in the division of labour and decision-making

There is a saying in Kaizuo that shows the traditional division of labour: "When the man is not capable, the woman goes to market; when the woman is not capable, the man does the cooking". This shows that men are supposed to carry out tasks that take place outside the household, such as marketing, while women should do household chores, such as cooking. As discussed above, from a gender perspective, there is a difference in livelihood portfolios, while gender roles are

changing in livelihood portfolios as well. Gender roles are also changing with regard to the division of labour and decision-making, especially since the increase of migration.

Household chores

Household tasks are traditionally women's domain. Now that migration is increasing, the division of labour within households is changing, too. Table 8.5 shows that women are doing most of the cleaning, cooking, feeding animals, caring, and washing. Fetching water is done by both men and women. Yet, with regard to feeding cattle and collecting fuel wood, things were quite different in the 1970s cohort: back then, the men fed the animals and collected fuel wood. Every day, they took the cattle to open grassland.

Table 8.5 The division of labour and decision making in household chores and taking care of livestock of different cohorts

(unit: households)

Activities	1970s cohort			1980s cohort			1990s cohort			2000s cohort		
	AM	AF	AJ	AM	AF	AJ	AM	AF	AJ	AM	AF	AJ
1. Division of labour												
Collecting fuel wood	19	16	9	6	23	8	2	21	10	6	12	5
Fetching water	12	13	10	9	17	9	6	14	12	6	8	9
Cleaning house	0	37	10	0	36	5	1	31	7	1	25	3
Cooking	0	41	6	1	33	7	1	32	7	1	18	10
Feeding animals	0	40	6	1	27	7	1	29	7	1	19	7
Feeding cattle	20	15	10	7	20	9	8	16	9	7	9	6
Taking care of children, the elderly and illness	1	15	6	1	8	6	1	23	9	2	20	7
Washing clothes	0	40	6	0	34	7	1	35	4	1	24	3
2. Decision making												
Collecting fuel wood	18	16	11	6	23	8	2	22	10	5	14	4
Fetching water	13	14	8	9	21	7	6	16	11	6	11	9
Cleaning house	0	37	10	1	35	5	1	32	6	1	25	3
Cooking	1	40	7	1	33	7	1	33	6	1	21	7
Feeding animals	1	37	7	0	28	7	1	29	7	2	19	6
Feeding cattle	20	16	9	7	21	8	6	17	12	8	9	5
Taking care of children, the elderly and illness	2	15	5	1	9	5	1	23	9	2	20	5
Washing clothes	1	38	7	0	34	7	1	36	3	1	27	0

Note: 1. Adult male = AM Adult female = AF Jointly by adults = AJ

2. The division of labour means that one person mainly carries out this activity, but this does not mean that the other(s) do(es) not help.

Source: Farming household survey, 2008.

I noticed that one husband in the 1970s cohort in Dongkou village took care of the cattle the whole day. He did not do anything else, because the cattle were a little sick that day. He got the necessary medicinal herb from the forest and asked the only traditional vet in the village to help with the treatment. He treated the cattle

with medicine every three hours. I asked why he only focused on taking care of the cattle, and he replied: "*There is not so much that needs to be done in the non-busy season. My wife can manage alone, so I can spend more time to take care of the cattle*". I saw that his wife was busy the whole day with cooking, taking care of their grandson, and making tofu for their neighbour's reception. Usually, those who look after the cattle in the field collect fuel wood at the same time. For the younger cohorts, most men are not around in the non-busy season and women have to take care of the cattle, or they give it to their parents to look after. The younger cohorts also buy more agricultural machines and raise fewer cattle than their parents. The differences between the cohorts are not significant. In the FGDs with women, women said that they take care of the household's money more often than their husbands because they are good at it, but they only spend money on household consumption and not on their own consumption, as men do.

In the past, women were tired because they had more tasks to do and the division of labour was more clear-cut. Men rarely helped women with some activities, such as taking of children. Women had to fetch water, ground grain manually, and cut grass to cover the floor of the cattle pen. Nowadays, they have enough rice straw to use, and there no longer is a need to cut grass. In the past, the women had to spend half a day or even a whole day to get water from remote villages. Now, there is tap water in most villages and there is ample water in the rainy season. In the dry season, some villagers still need to fetch water. Nevertheless, nowadays, both men and women are doing that. In the past, the women also had to pound the rice and maize because there was no grain-processing machine until the mid-1980s. In the 1990s, the electric rice cooker came into use, so cooking rice has become easier. Only the few people who mixed rice and maize as staple food had to work harder because the cooking time was longer. The households in the 1990s and 2000s cohorts spend less time on cooking. Nowadays, most households have savings and women find it less difficult to manage the household, even though there are more activities than in the past. When men need money, they ask women to give it to them. When the couple puts money in the bank, however, it is in the husband's name. If it were to be in his wife's name, he would be laughed at by others, because only a few households are in the woman's name. Another reason why women cannot sign is that they are illiterate.

Nowadays, both men and women are doing household work. For younger cohorts, the division of labour is more obscure if both are at home. In general, the women do more work in the household because the men migrate.

Decision making

In terms of decisions about household chores, generally, the important decision maker is the one who carries out that task the most. Usually women do more, and make more decisions about, household chores. However, important decisions such as selling animals and building houses are made by men or are made jointly. When the couple decides to build a house, the husband takes the responsibility and makes decisions for the construction, while the wife helps a little.

In the collective era and at the beginning of the HRS, the women of the 1970s and 1980s cohorts were more tired, both mentally and physically, because

there was not enough food to eat and no money to spend. Women had to manage the household very well to feed all its members, when there was not enough to eat. In both FGDs and interviews, villagers in the 1970s and 1980s cohorts mentioned that, in the past, the decisions that had to be made within households were fewer but harder.

The division of labour in agricultural production

The above discussion shows that the division of labour in the household is different for men and women. This also applies for agricultural production. Table 8.6 indicates that land preparation, irrigation, and information collection is mainly men's work for all cohorts. Weeding the rice field is a man's job nowadays, because since recently, herbicides are used instead of manual weeding. Most women are unable to read the instructions on the pesticide bag. In the past, weeding was usually a woman's job, because it takes a lot of time and men had no patience to do it. Weeding maize is a woman's task or joint work, because it really takes a lot of time, especially in upland villages. Maize also requires weeding two or three times, each time taking half a month. The home garden is completely the work of the women for all cohorts. Harvesting is a joint task because it is very important for the household and it has to be done quickly to avoid decay in the field. The post-harvest drying of rice and maize is also either a joint task or the woman's task. It takes a lot of time. Most often, the men help to carry the rice sacks and maize sacks to the drying floor, where the women take care of the drying tasks.

Transplanting is women's work, but more men have joined them in the 2000s cohort. Fertilizer application is mainly men's work in the 1970s cohort, but for other cohorts, this task is most often shared between men and women. A possible reason is that the women from the 1970s cohort are not that strong physically and could not take the leading role. The participants in the FGDs for this cohort told us that the women from this cohort had to cook for the household and sometimes hired help after coming home from the field during the busy season. People from the younger cohorts could go to their parents' house to eat if they were tired in the busy period. Marketing was a man's job or joint work for the 1970s cohort and still is for the 2000s cohort. For households from the 1980s and 1990s cohorts, this is different. Marketing was a woman's job or a joint task.

Table 8.6 The division of labour in agricultural production broken down by cohorts

(unit: household numbers)

Activities	1970s cohort			1980s cohort			1990s cohort			2000s cohort		
	AM	AF	AJ	AM	AF	AJ	AM	AF	AJ	AM	AF	AJ
1. In rice fields												
Land preparation	43	2	3	31	6	2	33	2	4	23	2	3
Transplanting	1	29	17	0	32	7	1	25	13	2	14	11
Fertilizer application	25	7	15	13	14	12	11	12	16	9	8	10
Irrigation	25	3	7	13	5	3	13	3	3	11	1	4
Weeding	29	4	14	23	6	10	23	5	9	16	3	7
Harvesting	1	3	44	1	7	31	2	3	34	1	6	20
Post-harvesting	2	15	28	0	20	15	3	20	13	2	10	14
Marketing	21	5	14	11	7	10	9	11	11	11	2	6
Information collection	24	10	11	15	13	8	17	13	6	13	8	5
2. On maize land												
Land preparation	43	2	3	28	7	3	34	2	3	23	1	3
Planting	4	15	29	0	13	25	3	13	24	1	9	18
Fertilizer application	14	11	22	9	13	16	10	14	16	7	9	10
Weeding	4	10	33	1	14	23	3	19	18	1	12	14
Harvesting	2	3	43	0	8	29	2	4	34	1	5	21
Post-harvesting	2	17	29	0	23	15	4	21	14	2	12	13
Marketing	12	5	11	4	7	12	7	10	10	6	3	6
Information collection	23	9	16	11	15	11	16	16	8	11	9	6
3. In the home garden												
	0	49	0	0	41	0	2	38	1	0	29	0

Note: 1. Adult male = AM Adult female = AF jointly by adults = AJ

2. The division of labour means that one person mainly carries out this activity, but this does not mean that the other(s) do(es) not help.

Source: Farming household survey, 2008.

Generally, the division of labour in the 2000s cohort is not as clear as that in other cohorts. The possible reason is that the task divisions were not so strict because of a new ideological change, brought about by the migration experience. Another reason might be that the couples just got married and still depend on their parents' help when the husband is absent.

Table 8.7 Division of labour in a changing context

Activities	Men away	Women away
Ploughing	Women do it	Men do it
Transplanting	Women do it	Men hire labour
Harvesting	Relatives' help	Relatives' help

According to the FGDs of cohort 1 and cohort 2 and key informant interviews with aged persons, in the collective era, task divisions were more rigid: men ploughed and women transplanted, and they harvested together. In winter and summer, both men and women cut grass for feeding cattle or cleaning the field. After the HRS, the household became the production unit and the division of labour was not so clear-cut. Men and women worked together more often, even if they took on separate tasks. For instance, when spreading manure together, the man mostly carried the manure and the woman spread the manure on the field. Yet, ploughing still is men's work; only a few women can do that. When men started to migrate, however, women began to learn how to plough, too. In the cohorts of the 1990s and 2000s, more and more women can plough if the husband is not at home. In the older cohorts, more men stay at home and continue to do the ploughing. Transplanting is a woman's task, which men rarely carry out. Even nowadays, men still seldom do the transplanting, especially those from the older cohorts. Some younger men, on the other hand, did begin to do the transplanting and some even do it very well. Usually, when the wife has migrated out, her husband hires women to do the transplanting. However, it is not a very common for the wife to migrate, leaving her husband behind (Table 8.7). Harvesting is a task wife and husband share. The husband brings the heavy harvesting tools and carries the grain sacks, while the wife cuts the rice straws and helps her husband with some of the physically demanding workload. Couples usually get help from relatives if one of them has migrated out.

For younger cohorts, the division of labour in agricultural production is not as clear-cut as for the older cohorts, as indicated above. But the home garden definitely is woman's domain. Husbands rarely help their wives there, except with watering and applying fertilizer. *"The home garden is definitely a woman's job"* most men said in FGDs and interviews.

In the past, unmarried children used to help their parents with agriculture, but nowadays, the children rarely help with fieldwork and animal raising. Most children are in school until middle school, because the government pushes through the obligatory education campaign[22]; children are not allowed to withdraw from school before middle school. Those who cannot continue to study after graduation from middle school migrate to earn cash. There are almost no people around the age of twenty in the village. *"All the unmarried children want to migrate. My youngest son is 20 years old and planned to start a transportation business at home because our household bought a truck. But he had a hard time in the evenings, since he had no friends*

[22] With the obligatory education campaign, the government promotes that all children must finish nine years of education, including primary school and middle school. It provides financial support for this. Financial support does not go to high school students.

left. So he left the village and went to Zhejiang province last month", one female participant in the FGD 2A in Dongkou village told us.

Decision making in agriculture

As with household chores, the decision making in agriculture is mostly done by the person who performs the task most often. Women make many suggestions, but men do not always listen to their opinions. Women make decisions about their own activities, even if these are trivial. In the peak season, men and women decide together on the division of agricultural tasks. During slacks, the women make more decisions on their own because most men are absent. Men are not as concerned with agricultural decisions as they were in the past, because they now make decisions about long-term migration and circular work, to provide the household with more income. Agricultural decisions are increasingly left to women, especially in the 1990s and 2000s cohorts. Most men and women from the 1970s and 1980s cohort, on the other hand, are still working in agriculture and both make decisions about how the work is divided.

8.6 Migration

In this section, both long-term migration and circular work will be discussed. Not just migration in itself has been changing, but also its impact and the motivations for it have changed over the past 30 years.

8.6.1 Motivations for migration

In the collective era, some men from the 1970s cohort migrated or performed circular work. This was arranged and required by the collective. They only followed the collective's arrangement and got work points to exchange for agricultural products. They did not receive any money themselves, the collective did. Long-term migration and circular work earned higher work points and were usually done by skilled men. After the HRS, people began to build new houses and some skillful men did circular work in house construction. A few men worked in mines in nearby villages.

For the 1980s and 1990s cohorts, the main income during the 1980s and 1990s came from agriculture. Circular work and long-term migration were supplementary activities for these cohorts. Respondents from these cohorts remember clearly that when people just started to migrate in the early 1990s, most people thought this was a waste of time and money because it was not clear whether one could earn enough money to pay the travel costs. After they had heard many success stories, people started to try for themselves, but these experiences were not very successful. Salaries were low, and it was hard in itself to get a full salary. Bosses were inclined to cheat the migrants they employed. It took until the 2000s for the government to adopt measures to guarantee that rural workers get their full salary. Nowadays, people try to migrate, even if they have to borrow money to cover the travelling expenses. They believe that they can earn enough money to pay back these loans. In the early 1990s, the 1980s and 1990s

cohorts mostly did circular work in nearby cities or counties. They did not even know where the bus stop was when they first started travelling, so these experiences were quite unnerving in the beginning. Only a few people from the younger cohorts went to high school in the nearby city of Duyun, so they did not share these worries.

In FGDs 4A and 4C, some younger women from the 2000s cohort shared their ideas on this subject: *"Staying at home is better because the weather and environment are better. We have more freedom at home as well. But we have to earn money. The net profits from agriculture are decreasing. We need to build a house and pay for our children's education. Sometimes, we also spend money on dying our hair and buying cosmetics"*. They had experiences with migration (especially long-term migration) before they got married and show no interest in agriculture. They have no doubts about whether they can make enough money by migrating. Low agricultural profits are a big push factor for them to migrate.

8.6.2 Migration impact

The impacts of migration on older and younger cohorts[23] are different. People from the older cohorts usually stay behind to take care of the children and the land. People from the younger cohorts always plan to migrate again, even when they are at home. They do not concern themselves with long-term agricultural production. Of course, a greater burden is left for the people who stay behind.

Positive impact

In the collective era, migration could bring households more work points to exchange for food. Nowadays, the impact of migration is much larger than on income alone. Migration also influences people's ideas and behaviour.

Migration can increase one's income. Most households built a new house by using remittances earned through migration, except for households from the 1970s cohort. Other than from migration, it is not easy for the villagers to find enough money to build a good house. Returning migrants also bring new ideas into the communities. For instance, some people who build a new house will even hire a designer to integrate modern ideas about decoration. The younger cohorts are more open-minded and are not easily bothered by small conflicts between villagers. In the past, the villagers had a lot of quarrels about petty things, such as a missing chicken or canal digging in the field. Nowadays, the open-mindedness brought in by returning migrants also influences the older cohorts and such quarrels have become rarer. Migration, especially long-term migration is very good for people's general development. Male respondents in FGDs 1A, 1B, 1C, 2A from the 1970s and 1980s cohorts agree:

> *"Migrants with only primary school are better educated than those who never migrate but finish middle school. Life experience is a good practice for young people. Younger people express their gratitude openly by saying thank you after*

[23] Older cohorts are the 1970s and 1980s cohorts; younger cohorts are the 1990s and 2000s cohorts.

> *you help them, which did not happen so much before. If there is a quarrel between young people, it is easier to persuade them to stop."*

For the older cohorts, migration (especially long-term migration) also has a large positive impact. Their unmarried children can support themselves by their salaries and do not need help from their parents any more. Some children send remittances, so the households generally have more money to hire labour in the busy season.

Negative impact

At the same time, migrants are frequently unhappy with the local life. Murphy (2004) has found that migrated women are often dissatisfied with their lives after their return to the village, despite increased material gains.

Children are influenced a lot by success stories about migration and want to go off to earn money if they do not do very well in school. As one woman from FGD 3A of the 1990s cohort mentioned: "*our children always say that they will migrate if they cannot go to high school because their grades are not good enough. They know that migrants earn a lot of money, even if they did not study hard in school".*

The women are left behind to do everything at home. The older cohorts, especially the women, carry the heaviest burden. Chen, a 56-years-old woman in Dongkou village said:

> *"The biggest problem is that I have to do everything: take care of three grandchildren, take care of the house, animals and fields. I have no choice and have to take the children with me to see the cattle and for other activities. Now, I am drying the rapeseed and I have to check it because it is going to rain."*

Social activities in the village are decreasing. In the collective era, the villagers had more social activities, such as basketball matches. Activities were easy to organize in the past, because most people were at home. Now it is hard to organize anything. Only some women have grouped up for singing and dancing activities.

Young women have little knowledge about and experience with agriculture. They do not value the land much, so there are also fewer conflicts about land. Guang, a 25-year-old woman, used to work in a small decoration factory in Zhejiang province and met her husband there. Currently, she is taking care of their daughter who is just one year old. Guang plans to go back to the factory when her daughter is two. She is not interested in agricultural production and does not know much about it. She is staying with her parents-in-law and they help her to look after the baby. Her husband is still working in the decoration factory. The villagers nowadays have more money to buy fertilizer, hybrid seeds, and small agricultural machines, but land abandonment is increasing.

8.7 Social resources

Social resources play an important role in rural households' livelihoods. As discussed in Chapters 4 and 7, *zahui* is a very important informal organization to

help each other to mobilize cash and also for recreational purposes. This form of social resources also involves relatives, friends, neighbours, the community organization, and mutual trust. The following sections describe changes in these respects since the implementation of the HRS.

8.7.1 Changes in social resources

During the collective era, social resources were mainly obtained from relatives, friends, neighbours, and the community organization. There was no *zahui* because people had no money to invest in this organization. After the HRS, relatives, neighbours, and friends got a lot of help in the busy season through an exchange of labour, while the community organization's role has been decreasing. Until the 2000s, friends, neighbours, and relatives also helped building houses by contributing their labour for free.

In the 1990s, people needed more money to invest in their agricultural input because of the introduction of hybrid crop varieties. Villagers had to get local high-interest loans and mutual trust was very important. If a villager wanted to get a loan from someone, the lender should be able to trust that he could return the money with interest. In the recent decade, help from relatives has become more important because many children are left behind with their grandparents. *Zahui* has been increasing in the recent ten years, since people have extra money to put aside for important events, recreation, or urgent needs. It has also become easier to get a loan from a local credit coop because the government has issued policies to help rural development. Nowadays, the importance of help from neighbours is decreasing because many activities are paid in cash, instead of through a labour exchange. This also applies to help from relatives, as is reflected in the following quote from FGDs 1A, 1C, 2A, 2C. "*If relatives help you for one or two days, there is no need to pay them. If they help for a longer time, you do pay them. The use of one's relatives' help is still widely spread, even if they live far away, because it is easy to communicate with relatives by telephone or by paying them a visit*".

8.7.2 The importance of social resources

The importance of social resources is apparent in many situations. I will discus the main functions of social capital in the research areas in the following.

For urgent assistance

When people meet problems and need urgent help, social resources can play an important role in solving the problems. Chen, a 57-year-old woman, lost her house in a fire in 1978 and she had nothing left. The village allowed her to cut trees to build a house, gave her rice to eat and allowed her household to live in the collective store house. Neighbours, friends and relatives helped with the construction of her new house.

For agricultural production

In 1976, most villagers had formed small groups of five to eight households as one production group. This group was organized on the basis of location, which meant

that neighbours were part of the same group. They worked together in the fields. The group members had close relationships with each other (apart from a few exceptions). Nowadays, the villagers usually organize different kinds of activities based on these groups.

Some better-off households have bought smaller agricultural machines, which they lend to good friends, neighbours and relatives. This solves labour shortage problems during the peak season.

For food security

The participants in the FGDs from the older cohorts said that when villagers do not have enough food, they ask help from relatives, friends, neighbours, and the community. Rong, a 62-year-old woman in Dabuyang village, could not feed her four children in the collective era when we interviewed her as a key informant. Because her health was bad, she could not earn enough work points, but her children were teenagers with healthy appetites. So she went to her sister, who lived in a better situation, and from her she got some rice and maize every year without having to return it. This helped her to manage the hard life during the collective era.

For new businesses

In the past, when rural households needed money to go into business, it was hard to get a loan from a bank or credit coop. But if relatives or friends could provide financial aid, it was easier to go into business successfully. Chen stems from one of the richest households in the past in Dabuyang village. He had two brothers who worked in the county, who assisted him in borrowing several thousand *yuan* to buy a grain-processing machine in the 1980s. This machine was the first one in the village and nearby villages, so he started to become richer through his processing business.

For employment

Migrants usually move together with relatives, friends, and neighbours. Migration with formal government assistance has become rare. Villagers believe what they hear from their neighbours, relatives and friends. Two married women from Dabuyang village migrated last year because they were introduced to their employer by their neighbour, who was a middle-level leader in the factory they work in. The two women said during the interview: "*If he had not introduced us to the factory, we would not have moved there*".

For better education opportunities

Local people nowadays attach great importance to the education of both girls and boys. They support the studies of their children as much as they can and invest a lot in it. There is no high school in the municipality and the quality of the municipal school is not very good. Villagers who want to send their children to higher education or a better school always ask help from their relatives. They may ask grandparents to take care of the school going children in another municipality or in the county. Or they may send their children to relatives already living there.

Xiang, a 44-year-old woman in Dabuyang village, was dressed very nicely when we met her. She was going to visit her two daughters. Her youngest daughter is studying in primary school and lives with her eldest daughter. The eldest daughter got married in a nearby municipality, Guangshun. Xiang sent her youngest daughter to Guangshun, because the school is better there and her daughter can also concentrate better on her study without her playmates around.

8.8 Case studies

In this section, I will discuss four cases, one from each of the four cohorts. Their household characteristics, household establishment, livelihood, land use, migration history, social resources, and gender issues will be discussed. These cases were selected based on the criteria of cohort and the migration situation (see Chapter 5).

Case 1: Di, 2000s cohort

Di is 37 years old and her husband Pin is of the same age. They have three children. She has a relative in Dabuyang village and she came to buy rice seeds in Kaizuo in 1999. On that occasion, she met Pin and they got married in the year 2000. When they got married, her parents gave her 1000 *yuan* and she used her own savings to buy clothes and other goods. Pin got some money from his parents and they bought a TV, a washing machine and some furniture. They had their first daughter that same year and established their independent household in 2001. Di insisted upon this separation from her in-laws. They also got six *mu* of paddy fields and one *mu* of upland. They got three rooms, one cow and one pig. In early 2003, the second daughter was born and the youngest child, a son, was born at the end of 2003.

Di finished her eight years of schooling and then began to work in a restaurant. She rarely helped her parents with agriculture. She became a fruit vendor at the age of 21 and did not do much in agriculture before getting married. Pin is a skilful man, who is good at house construction and water pipe installation. In 1998, he migrated to Zhejiang province for one year. Because of their marriage in 1999, they stayed at home for several years. They had to take care of the children and the cultivated land. At the same time, they also started doing business. Because this municipality is rich in edible fern, they began to collect fern from villagers and sold it to businessmen in nearby cities from 2003 onwards. It was not easy for them to make a profit in this line of business. Because they were not good at processing the fresh fern, most ferns decayed. They stopped two years later. Pin began circular work after that unsuccessful business. Because or his skills in house construction, the villagers always ask him to join in contract teams. After he had finished the sowing and harvesting, he mainly did this type of work. During that period, Di spent most of her time taking care of the children and agricultural production at home.

Their main crops were rice, rapeseed and maize. They raised pigs and cattle every year. It was Di's task to arrange this. Pin did not participate in this task. He mainly did the ploughing, harvesting, and some tedious tasks. He did not arrange other trivial tasks, but just followed Di's arrangement. He put most of his energy in circular work. He owned a cell phone and there was a landline at home. The

ploughing and harvesting became easier after they bought a ploughing machine and a harvesting machine. It was Pin who used these machines; Di had no interest in using them. When Di could not find a better business to make a profit from than raising pigs and cultivating land, she migrated for half a year in 2005, but it was difficult for her to go away because their children were still small. For this reason, two years ago, they rented five *mu* from the neighbours to cultivate rice, but they only got small profits from it. They also had to give 500 kg as rent fee. Their main crop income is from selling rice. They cultivated mushrooms with support from the municipal government and invested 1000 *yuan* in 2007. The government gave a 1500 *yuan* loan. They did not have enough knowledge to cultivate mushrooms. The weather was extremely bad and the temperature was really low in early 2008. The mushrooms did not grow well and they did not make any money.

Three children cost a lot of money. This household is the only household from this cohort in the village with three children. All other households have only one or two children. They did not plan to have a third child, but did so unexpectedly. The children are in grade one and grade two. They need money to buy notebooks and many other items. They are poor eaters and always ask for money to buy snacks.

The household was very unfortunate because Pin and their son fell off the roof of their house. It took them a lot of money to recover. They borrowed money from relatives and friends. At that time, in autumn 2001, their relatives and neighbours also helped to harvest the rice. Actually, Pin earned quite some money from circular work because of his skills. But the household's expenditures were also very high, with three children and injuries to pay for. Because of this, the couple was forced to migrate again. They told me they planned to migrate after the Chinese Spring Festival in 2008 and would leave their children and land for their parents to take care of. They plan to build a new house when they have enough money. In April 2008, I was told that this couple had migrated again. The children were left with their grandparents and the land was rented to an aunt.

Case 2: Xia, 1990s cohort

Xia (43 years old) and her husband Shao (45 years old) have two daughters, aged 17 and 15. One daughter is studying in middle school in another municipality, and the other daughter is studying in high school in the county. Shao has nine years of education, while Xia has only got two months of adult learning. She has limited reading skills. They were introduced by Xia's elder sister, who got married in the same village earlier. Xia had a miserable childhood because her parents died when she was 15. She has six siblings and they had to make a living for themselves, which caused a close relationship between them. The couple got married in 1989 and had their first daughter in 1990. They were asked by the parents to establish their own independent household, because the parents were not used to the couple's lifestyle and wanted to push them to work harder. The parents were also unhappy that they delivered two daughters. The household is one of two households in this village with only daughters. They only got one room, one sack of rice, and some bowls and chairs when they separated from the parents. They also got eight *mu* of paddy fields and two *mu* of upland. The parents pushed them to build a new house soon, but they could not afford that. They stayed in that one

room for seven years. In 1999, their uncle allowed them to stay in his house for three years, because he was working in the county and nobody stayed behind in the house. They then began to save money to build a house. In 2000, Shao migrated to work at a construction site and earned more money every year. They built their house from his earnings and some money borrowed from the same uncle in 2001. They moved into their new house before it was completely finished. In 2005, the construction was completed.

Shao migrated for seven years and usually came back once a year. For two years, however, he did not come back for the Spring Festival because his job required him to stay and look after the construction materials. Sometimes, Xia went to see him, because the migration place was in the same province, but she did so only for short periods. She had to take care of the children, crops, and animals. From 2005 on, both daughters studied in different places. On the one hand, this made Xia feel better because it saved her time; on the other hand, she felt a lot of pressure because their two daughters needed more money. At the same time, Shao moved back home in February 2007, because the construction project was finished. He was planning to migrate again, but first wanted to take some rest at home. In May 2007, Xia decided to migrate because it was difficult to support their two children. She also wanted to go off to relax because she really felt very tired from all the agricultural work she had done on her own for so many years. Xia moved away together with another woman and returned in November 2007. The women were introduced to work in an enamel factory in Guangdong province by a migrated neighbour. She did not know many Chinese characters and found it difficult to remember too many kinds of products. But she tried her best and her work in the factory was not bad. After half a year of work, she had learned some more characters. She migrated back because of her worries for her left-behind husband, her children, and the land. Both owned cell phones and could contact each other easily.

Xia made most decisions in agricultural production and also regarding the building of their new house, because she was home alone very often. She had difficulties in doing all the agricultural work, so she employed others to plough, but she did all the other tasks herself. When Shao was alone at home in the harvesting season of 2007, he had more difficulties. He even gave all the rice straws that Xia collected every year to feed a pig and cattle away to neighbours and friends. They did not have any pigs and cattle in 2007.

They mainly produced rice, rapeseed and maize. But they were planning to cultivate tobacco plants and invited technicians to give suggestions for the production of tobacco leave. They are one of the households with the largest landholding per capita (3.5 *mu* of paddy fields and 1 *mu* of upland) in Dabuyang village because they cultivate their uncle's land as well. Still, in March 2008, they decided to migrate together in order to earn more money for household use, mainly for their children's education. Their two daughters needed a lot of money, being in middle school and high school. Nevertheless, the couple was willing to send their daughters to better schools, even though this was more expensive and farther away. Their relatives helped them a lot with building the house and paying for their children's education. Xia's brother was working for the government and had a higher income, so he gave money to his two nieces.

Shao and his younger brother divided the responsibilities of their parents' care. Shao is responsible for taking care of their father and his brother is taking care of their mother. Last year, his father got ill and passed away. Shao spent 10000 *yuan* to arrange for his funeral, which again pushed them to make more money. In March 2008, I found they had migrated; the house was locked when I went back to do my fieldwork. I heard that they rented out their paddy fields to a neighbour.

Case 3: Xue, 1980s cohort

Xue is 45 years old and stayed at home with his wife Ma (45 years old). Both graduated from middle school. All of their three children had moved out at the time of the interview. Their eldest, 24-year-old daughter got married and was living in a nearby municipality. Sometimes, she came back with her eight-month-old daughter. Their second daughter was 22 years old and their youngest son was twenty years old. Both had migrated to Jiangshu province.

They got introduced by a relative and married in 1985. They had six *mu* of upland and two *mu* of paddy fields when they established their own household. Xue was the second youngest son from his family and his older brothers already had their own household at that time. His youngest brother was a government official and did not need land anymore. They had enough land to cultivate and were living with their parents until they passed away several years ago.

Their main crops were maize, rice and rapeseed. They also grew peaches. Seven years ago, their staple food was a mix of maize and rice. Yet, at the time of the interview, they had more money to buy rice and did no longer eat maize. They had six pigs and four cattle. All the rice and maize was used for their own consumption; they sold only 150 kg of rapeseed that year. They also cultivated some sunflower, soybean and potato. They had four *mu* of land reclaimed for forest and they got a 1000 *yuan* subsidy from the government. Their peaches were managed well during the three years that Xue did not do too much circular work. In those years, they earned 1000 *yuan* per year by selling peaches. After that, their income from peaches diminished to only 200 *yuan* a year.

Their main income came from Xue's circular work in a coal-mine. Their agricultural production was not profitable. He had been working in this mine for three years and came home every day. Nevertheless, he did not work the whole year round. On their land, he mainly did the sowing and harvesting. Other activities were managed by Ma and he just followed her arrangements. They built a new and nice house in 2004, which cost them 50,000 *yuan*. They borrowed 7000 *yuan* from the bank and relatives and had already paid off their debts. It is fortunate that they built earlier, when the costs were lower. Ma took care of the weeding and the daily management of the land and household. She could manage this on her own and would only ask Xue for help in the peak season. They also hired labourers for the busiest days. Their two migrated children sent a few remittances, but they did not use this money. They saved it for their children's future use. Xue was a village leader for several years and he was regarded as a good leader by the villagers, but he gave this up for the more profitable circular work.

Sometimes, the younger brother helped them by giving some seedlings and good crop varieties, and they were also willing to try new things. Their interest in trying had, however, decreased.

They were not busy and liked to help their daughter with taking care of their granddaughter. Their son-in-law had migrated and their daughter was living with the son-in-law's parents, according to custom. She only came back every once in a while to ask her parents to take care of her daughter. Ma attended a recreational group in the village and enjoyed dancing and singing in her free time. They owned a cell phone to stay in touch with their children.

Case 4: Lan, 1970s cohort

Lan was 56 years old and her husband Zhang was 59. They got married in 1970, but she stayed in her parents' house until 1974 because both are Buyi people and observed the *zuojia* custom. He was the only son in his household. Two sisters got married and were living in other villages. When they got married, they stayed with the parents and never separated the households. They had three sons and two daughters. Lan came from a nearby village and was introduced to her husband by her aunt.

They had 24 *mu* of paddy fields and six *mu* of upland. They got land for seven people during the land division in 1981. All children got married, except the youngest son. Since three sons and two daughters-in-law were not living at home, they did not divide the household until February 2007. The couple cultivated their land together because none of their children lives at home, even though the household was divided into three small households, one for each son. In addition, they were taking care of two grandsons as well. One grandson was eight and the other seven. Both were in primary school. The eldest son migrated in 1995 after he graduated from middle school. He came back in 1998, when he got married, but he soon moved out again. Later, when the grandson was older, the eldest son and his wife migrated and left the grandson with Lan and Zhang. The same happened with the second son. The youngest son also migrated once he graduated from high school; he knew nothing about agriculture.

Lan and Zhang built their new house in 2000. They gave two rooms to each son when they divided the household. Later, the eldest son built a new house, opposite theirs, with the money he had earned. The old couple's own house is the old building, but they have to look after all the houses since all their three sons migrated.

Their main crops were rice, maize, rapeseed, potato, and chilli. They had extra rice to sell and the money was enough for them and their two grandsons. The other crops were for their own consumption. To relieve their burden, they spent 3000 *yuan* and bought a tractor-ploughing machine in the year of the interview. Zhang was driving that machine. They had two pigs, four buffalos and some poultry. Lan usually arranged the agricultural production and looked after all these animals. Both collected fuel wood when they were free. They used fuel wood because it was cheaper and only used coal in cold winters. Zhang usually only followed the arrangements as Lan made them but he did the physically demanding tasks and took part in taking care of their grandsons. Lan sold the products on the

market, but Zhang carries them there. He did not do the selling, because he had no patience to wait such a long time and bargain with customers.

Zhang never migrated, not even in the collective period. But he used to make bamboo products and sold them in the past. At the time of the interview, he had given that up because the product was no longer as profitable as before. Apparently, customers no longer valued bamboo products because people use more manufactured products. The couple was also selling petrol for motorcycles because their house is located beside the main road and many motorcycles pass there.

They felt that life was better, although they were still so busy with agriculture and their grandchildren. They faced many difficulties when all their children were still in school. They had to sell rice every week, even though there was not enough of it. They had to borrow money from relatives and friends. At the time of the interview, they had extra rice to sell. Lan told me that most of her daughters-in-law were very strong; she could not control them even if she would feel unhappy with them. The daughters-in-law always replied: "*We have enough food and money, even if we do not work as hard as you*". She said that when she was young, the young women worked in the fields and their parents looked after their children. Now she had to cook for the younger generation, take care of the grandchildren, and look after their lands. The couple really thought that the younger couples are very lazy, yet the younger couples have enough money because of their long-term migration.

8.9 Discussion and conclusions

The above results and cases show that, for the 2000s cohort, marriages are not arranged. For the 1990s cohort, most marriages are not arranged, but for the two older cohorts, most marriages are arranged by their parents. For Buyi people in these two cohorts, the custom of *zuojia* strictly applies, and they did not deliver their first child at a very young age.

Long-term migration and circular work are very common in the 1980s, 1990s, and 2000s cohorts. Their main income is from these two resources. No matter how large their landholding is, their motivation to migrate is very strong because this is where the most money can be made. Half of the younger couples migrate together and leave their children behind with their parents. In the younger cohorts, half of the couples choose to stay at home with their children when these are still young. Usually, the husband does circular work or has a business, while the wife is looking after the field and the children. However, women from the 1970s cohort have no experience with long-term migration or circular work. Yet, some men from this cohort even migrated during the collective period. Usually, this cohort carries a heavier burden because they have to take care of their children's land and house and of their grandchildren. Huang and Song (2005) also showed that children are usually left behind with their grandparents when their parents migrate. There are few households in which the wife migrates and the husband is left at home. When women migrate, men always feel upset and find it difficult to manage the household activities. Murphy (2004) has also found that when married women migrate, some married men, feeling the double burden of

farming and housework, push their wives to come back. Yet, the wife is always supporting her husband to migrate, even if that means that she has to carry a greater burden. She then tries to solve all problems herself.

The 2000s cohort is constantly looking for money for their children's daily cost of living and education. They have usually migrated before they got married. Now, they are still planning to migrate or they have indeed migrated and left their children behind. They do not care about land very much and are really interested in long-term migration. The 1990s cohort is in the most difficult life stage, because they really need to pay a lot for their children's education and have to take care of their parents as well. They also need to build their new houses. More households migrate and rent out their land. If they are engaged in agriculture at home, they try to cultivate more cash crops, e.g. tobacco or fruit trees, in order to make more money. Life for the 1980s cohort is better, because their children migrate but they often have no grandchildren yet, or the grandchildren are still too young to be left behind. People from this cohort usually do circular work to balance more profitable work with agricultural production. The 1970s cohort has to take care of the grandchildren left behind during migration periods. They are very busy and hardly have other opportunities to make money besides from agriculture. For this reason, they prefer to rent land to cultivate. There used to be food security problems in the collective era and in the early stage of the HRS, but these problems were soon solved completely.

For all cohorts, more women stick to agriculture and arrange the production. They make more decisions about this because most men have other activities that they consider to be more economically valuable. Where building houses and other activities are concerned, however, men still make the decisions. The division of labour for men and women still exists even though it has become blurred for some activities. Generally, men do physically demanding work and women do light and time-consuming work.

In the collective era, women usually earned less work points than adult males, but their participation and hard work guaranteed the smooth operation of the collective (see also Li, 2005a). Roberts (2004) has also shown that more than half of the returned migrants migrate again after marriage. About half of the returned migrants migrate again with their spouse. Younger generations are more exposed to the outside world and want to change their lifestyles. Younger cohorts pay more attention to taking care of their children than to agriculture, if they have enough money from migration. Currently, an increasing number of people like to work outside of their home community to earn a higher income; they use cash to employ people from poor villages to cultivate their land. There are fewer conflicts now than there were in the past. At that time, there used to be many quarrels about land and houses. Nowadays, the number of quarrels is decreasing, because, on the one hand, the villagers and younger generations do not value land as much as before, and, on the other hand, people generally are more open-minded.

Social resources are important for all the cohorts and play a role in migration, agricultural production, food security, education, doing business, and when urgent needs arise. Their form, however, is changing. Community help is decreasing, but help from relatives is still massive.

This chapter shows that the rural household has changed in many respects, including agricultural production. Agricultural extension policies should respond to these changes in order to be efficient. The following chapter aims to discuss agricultural extension and farming households' adoption of it in the changing context, in view of formulating better agricultural extension policies.

Chapter 9
Agricultural technology extension and adoption

This chapter describes the agricultural technology extension, villagers' access to channels of information about, and adoption of, agricultural technology. It addresses the questions of whether the agricultural technology extension process matches the needs of the villagers, and whether there are gender differences and differences between the older and younger cohorts of farming households in the use of extension services and the adoption of technologies.

The research methods used in collecting the information for this chapter are secondary data collection, the household survey (sample 160), participant observation, focus group discussions (FGDs) and key informant interviews with extension workers, municipal officials, and villagers. These methods are described in detail in Chapter 5. In all the FGDs, technology extension and adoption was discussed in relation to the topic of land use.

9.1 The extension structure

The Chinese government has a multi-level management system, which is described in Chapter 4. Below, I will briefly introduce the structure of the government extension system in terms of the extension bureaus, management, and procedures. This section is mainly from secondary data, interviews with township officials and extension workers.

Extension bureaus

Several bureaus are involved in agriculture and animal husbandry extension activities at the county level. The two main bureaus that have projects in this municipality are the County Agricultural Bureau (CAB) and the County Agriculture and Poverty Alleviation Office (CAPAO).

The CAB is mainly responsible for agricultural technology and the extension of new varieties of crops. There are ten sections at the county level. The bureau has stations in each municipality, each station being responsible for the implementation of the activities of the CAB. The station in the municipality of Kaizuo counts four staff members, of whom two are male and two are female. This station has two bosses, one employed by the CAB and the other employed by the municipal government. The staff is often involved in helping the municipal government to finish urgent and important tasks, e.g. tobacco production, which they do at the expense of the time they can spend on agricultural technology extension.

The CAPAO is mainly responsible for the management of poverty alleviation projects. There are three sections in this office. In the past, the office was mainly responsible for projects related to building infrastructure (roads, electricity, and water), but several years ago, the focus begun to shift to agricultural

technology and animal husbandry. CAPAO has no station at the municipal level; it carries out projects itself or asks for the help of the municipal government.

Management and *procedure*

Management is usually quite top-down in China. At least four administrative levels can be distinguished: the central level, the provincial level, the prefectural level (or city level) and the county level. Some bureaus have representatives at the municipal level as well. The municipal agricultural station is dually managed by the county bureau and by the municipal government and the CAPAO, which has no representative in the municipality. Recently, the Chinese government is discouraging the municipal government's management of the agricultural station, in an effort to make management more efficient.

The two county bureaus apply for projects at the provincial level. Usually, the provincial government decides to allocate money to projects or programmes. The money for these may come from the central or the provincial government. The county level formulates the proposal to apply for project money. In the past, they had to submit the proposals to the prefectural level first, after which the prefectural level would apply to the provincial bureau. During the past three years, the county bureaus usually apply for project money directly at the provincial bureaus. Sometimes, the county bureaus ask each municipality to submit a proposal and only send the best ones to the higher levels. But mostly, these bureaus prepare the proposals themselves. The money allocation is also multi-layered. In the past, the provincial bureaus would allocate money to the prefectural bureaus first, after which the prefectural bureaus allocated money to the county bureaus. The prefectural bureaus either did or did not manage the project money themselves. If not, they would still have administrative responsibility for the implementation of the projects. During the past three years, the money has been allocated to the county level directly, and the prefectural bureaus have less power. The municipal stations have limited opportunities to get money for their own plans and normally implement the projects that the county bureaus require them to do. The CAPAO has no municipal station and needs the help of the municipal government to assist in the implementation of projects. Project application is a long process and there is usually little time for the preparation of proposals. The staff in the bureaus writes the proposals, without consulting the villagers. Because it is difficult to get the money for projects, the main thing is to get a project, even if it is not well suited to the local situation. Often, the project money is received several months after the planned start of the project. This shortens the implementation period, which compromises the project's quality (Sun, 2007).

9.2 Extension activities and interventions

As mentioned in previous chapters, farming households tried their best to use hybrid rice to solve their food security problems with the support of government extension agencies. The adoption of hybrid rice is popular in the municipality. Since the implementation of the Household Responsibility System (HRS), households are

mainly using hybrid rice seeds; nowadays, it is difficult to find local rice varieties in the municipality. In the following sections, I will discuss five important extension initiatives recently introduced in the municipality, which were not as successful as the introduction of hybrid rice. The information was obtained through participant observation and interviews.

1. The hybrid maize project

In this municipality, traditional maize is intercropped with sunflowers and beans in one village. Farming households began to try growing hybrid maize in 1998, when the agricultural bureau promoted it. The government's main reason to promote hybrid maize was its high yield. At the beginning, it was very difficult for the local people to accept it because of the intensive labour requirements during the seedlings' raising period. The villagers did not have the necessary skills for raising these new seedlings, either. Ninety percent of the households only did a trial. They got higher yields in 2000 and were motivated to expand the cultivation area to about half of the land allocated for maize cultivation. In 2001, there was an increase of out-migration in the village and the villagers also found many shortcomings with the hybrid maize (see below). Now, hybrid maize only accounts for one fourth of the total maize cultivation in the village, even though 60 percent of the households still use it. Most households only allocate small parcels of land to hybrid maize, while only a few households allocate more land to hybrid maize cultivation.

2. The hybrid rapeseed extension

In 1997, the CAB began to promote hybrid rapeseed in the municipality of Kaizuo. In Guizhou province, rapeseed is a cash crop, mainly used for making edible oil. The government put a lot of effort into promoting hybrid rapeseed, to help villagers to have another source of income. The government required the owners of the fields near the main road to use hybrid varieties and provided fertilizer and seeds for free for these fields. In the first year, households with fields located in the designated areas planted hybrid rapeseed. One year later, the villagers felt it was difficult to manage the hybrid rapeseed because of a labour shortage, serious pests, and other factors (see section 9.3.2). Three years later, only a few households were still planting hybrid seeds. Now, there is no hybrid rapeseed anymore in the whole municipality, while the rural households still cultivate their local varieties.

3. The orchard project

Approximately 375 *mu* of orchards were established on villagers' wasteland in 2003, for the purpose of helping villagers to increase their income. At the beginning, the villagers wanted to plant different kinds of fruit trees and talked to the CAPAO. The CAPAO could not find all the desired species in a short time. The planting period was only in winter and the bureau could not wait another year, because the orchard project was required to finish that year. The bureau designed the orchard and did not listen to the villagers' ideas, even though the land belongs

to the villagers. The villagers thus had no choice but to plant the pear and raspberry trees that the bureau provided, because they had already dug the planting holes and put in manure. With regard to the planting and implementation, the CAPAO could not provide all the necessary services to the villagers either, because it did not have the required technicians and expertise. The villagers have not mastered the technique of pruning. Now, some households get benefits from it and others do not (Sun, 2007; Yuan and Sun, 2006).

4. The virus-free potato project

The agricultural bureau promoted virus-free potato to be planted on 20,000 *mu* of land in the whole county. In 2002, it started to give free seeds to the villagers to try. The yield was supposed to be much higher than that of the local varieties. However, the yields only proved to be a little higher than before, because the villagers were already used to exchanging seeds to avoid infection by viruses. They also buy different seeds every year, or every several years. Additionally, the virus-free potato is higher in water content, which means that it cannot be preserved for a longer time. The taste is not very good; neither the people nor the pigs like it. After food security improved, the potato was mainly used as feed. Now, most farming households have adopted new feeding technologies that do not require potato as feed. Ultimately, the villagers did not accept the virus-free potato; only a few households still cultivate it.

5. The mushroom project

In 2007, the municipality of Kaizuo began to promote the cultivation of mushrooms because the county government introduced an agricultural company to boost mushroom cultivation. The municipal leaders held several meetings and wanted to help the villagers to get richer by growing mushrooms. The local government assisted the mushroom-growing households by allowing them to get an interest-free loan of 2500 *yuan* and by giving them the guarantee that the company would buy the mushrooms at a rate of at least one *yuan* per kilo. The best mushrooms could fetch four *yuan* per kilo. Finally, 300 *mu* of land was planted with mushrooms in the municipality. After the planting, however, several problems arose. The company did not provide much technological assistance; the technician only came twice to give instructions for half an hour, and not all participating households had the chance to attend the meetings. Additionally, during that year the weather was extremely unfavourable for mushroom cultivation. As a result, the yield was not high and the quality of the mushrooms was not very good. When the company bought the mushrooms, it applied very strict criteria, which caused most mushrooms to be grouped into the cheapest class. Many households could not make a profit and most households did not want to grow mushrooms anymore.

9.3 Farming households' adoption behaviour and initiatives

Farming households have diversified needs for agricultural technologies (Zhu et al., 2002; Miao and Lu, 2006) have observed that farming households regard risk as an important factor in technology adoption. They also found that farming households have different resources leading to a diversified need of technology. For farming households, agricultural production technologies tend to be more important than post-harvesting technologies (Zhang and Ying, 2007). Farming households also have different ways to access technologies.

9.3.1 Households' technology adoption channels

In the survey, ninety-one respondents (56.9%) knew that there were government projects in the past year. Only 40 respondents (25%) were involved in these projects, while only six (3.8%) knew the extension workers. Six respondents (3.8%) went to the extension station, but they went there for a chat or municipal meetings, not for getting information on agriculture. In all the FGDs, only a few villagers said that they knew one particular extension worker, but they did not know what his work is about. They only knew that the extension worker is a municipal official.

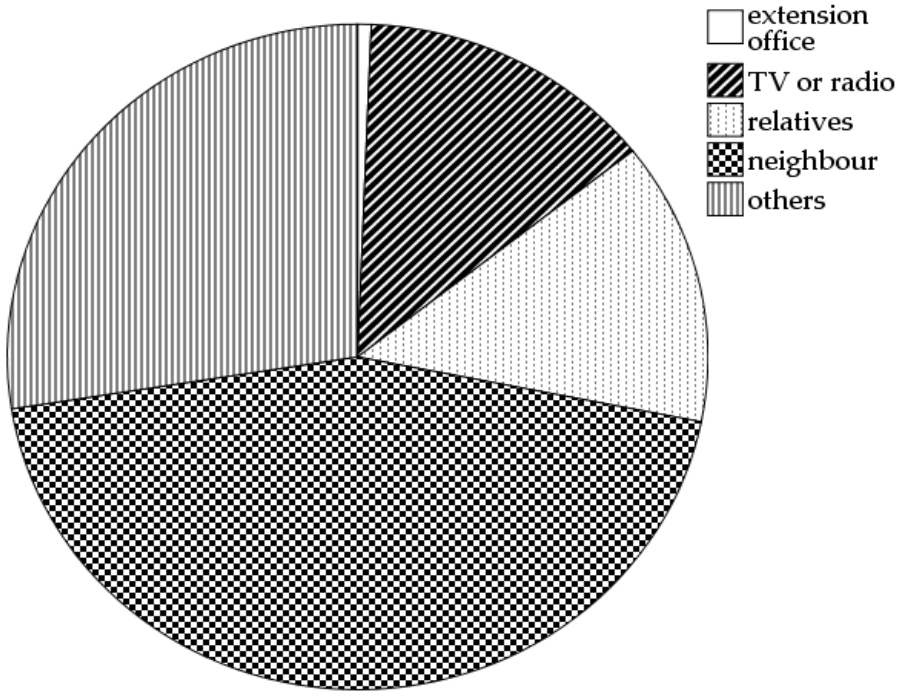

Figure 9.1: The main channels for acquiring technology (data from survey, 2008)

Farming households mainly get information on agricultural technologies from neighbours, relatives, TV and radio. Only a few households get information from extension workers (Figure 9.1). They also get information from other sources, such as the shops that sell agricultural materials, journals, and the practices of other

people. One woman in the FGD 1C said: "*I do not know which seeds are good and how to use them. When I see what the others (neighbours, friends, relatives) buy, I then buy that, too. Sometimes, I just want to get suggestions from the shopkeeper*". There are some farming households that engage in experimentation themselves, although not in a strictly scientific way. Only one household mentioned having obtained information from a migrant who worked in agriculture in the area of migration. Six households told us that they do not need extension services because they plan to migrate and do not have much confidence in the extension workers, either. In the mixed FGD in Dongkou village, the following was said: "*Municipal technology extension workers rarely come. If the extension workers do not come, how can we go and ask them? Each time, they only invite one person to attend training. We do not go to the station to ask for extension help. We know that even if we go, they will not take our ideas into consideration. The staff also changes very quickly in the station. We knew one former staff member and do not know any of the new staff members*". In the mixed FGDs in both Dabuyang and Dongkou it was said several times that people saw good technologies on TV but did not know how to get more contact information. If there would be contact information, they would like to learn about it and see it on site. However, it would be too expensive for them to pay a visit to that site.

The extension workers stated the following in the interviews and small group discussions: "*The extension office does not have enough staff and is requested to help the municipal government with other activities, so the delivery activities are very rare. If we have large-scale activities (which is rarely the case), the training is still small-scale. Sometimes, the seeds company and the seedling provider give some training, but the agricultural extension is actually almost invisible. We also have no money to implement the activities. We normally do what the municipal government asks us to do, which is not related to agricultural extension. Some villagers know we are officials, but they do not know we are agricultural extension workers*".

9.3.2 Cohort and technology access

The villagers rarely go to the agricultural station. It seems that younger households go more often and know extension workers better than the older ones do. The older cohorts have experience in agriculture and have doubts about the expertise of the extension workers. As some villagers mentioned in the FGD in Dabuyang: "*The extension workers have their knowledge from books, but not from practice. We have a lot of practical experience and we know the land very well*". In the youngest cohort, there is less interest in agricultural extension, because migration provides an alternative to agriculture.

Different cohorts get information on technologies differently. The 1970s cohort mainly gets the information on technologies from neighbours. The 1980s cohort, however, also gets it from migrants, while the 2000s cohort also gets it from the extension service. In the 2000s cohort, there is one household head who has a good relationship with the extension workers, because he graduated from agricultural school and is interested in talking with the extension workers about technologies and crop varieties. There is one household in the 1980s cohort that gets information from the migrated husband, who worked in agriculture in

another province and used the knowledge he acquired when he returned. The 1970s cohort likes to get the technology through self-practice and the younger ones like to read. A man from the 1970s cohort said in the FGD 1B: "*I know how to make a paddy field well enough so that it contains more water. Every year, the first time you prepare the field and you irrigate is very important. If you irrigate well the first time, then the field can contain enough water the whole year round. But the younger cohorts do not put any effort into learning agricultural technologies by practice*". The younger cohorts put more effort in non-farming activities, but they still have their own ways of acquiring technologies if they are working in agriculture. A 26-year-old wife in Guntang village said in the interview: "*My husband often reads agricultural technology materials and I sometimes do that as well. We want to try some new technologies. But it is not easy to persuade my parents-in-law to accept new technologies*". In the FGDs with people from the 1970s and 1980s cohorts, farmers also mentioned that they have learned their technologies mainly from their parents, when they were young. The 2000s cohort FGD shows that many younger husbands and wives did not have any knowledge about agriculture because they migrated after graduation from school. However, they began to learn after getting married, when they started to engage in agriculture at home. They said that the agricultural technologies were not difficult to learn and they are not concerned as much about agricultural income as their parents are. They use agriculture for meeting their basic daily needs and can use the cash to buy products they themselves do not produce.

9.3.3 Gender issues in agricultural technology extension

Usually, both men and women attend the government projects jointly. Only from four households (2.5%), the men attend the projects, and from seven households (4.4%) only the women. Female-headed households less often know an extension worker and also get less help, but there is no significant difference. Adomi (2003) has indicated that in Nigeria too, female farmers have more problems getting information. The gender of the household head has a significant bearing on the main channel for accessing technology. The order of sources through which male-headed households get access to technologies is neighbours, others, relatives, TV or radio, migrants, and the extension office, but for female-headed household it is neighbours, others, TV or radio, and relatives. Women like to learn more from TV or radio, because it is easy for them to understand (Figure 9.2). Neighbours are always very important for sharing technologies because they meet almost every day. Villagers, especially women, get together to discuss agricultural technologies when they are chatting and share experiences and compare household varieties, yields, and cultivation methods. The women have few possibilities to learn from relatives, since their relatives live far away or they do not have a good relationship with their in-laws. For these reasons, they do not go to ask for information on technologies from these relatives. One wife told me in an interview in Dabuyang village: "*I do not talk with my brother-in-law and his wife because they got more dowry than I got. But my husband still talks to them*".

More women than men are illiterate. Even if the younger women can read, they like to read recreational magazines, not technical ones. Their focus is on

taking care of the children. A younger wife from Dabuyang village said during the interview: "*I read recreational magazines while my husband reads technological materials. My main responsibility is taking care of my 4-year-old son; my husband does not blame me for not taking good care of the field. We hope that our son can have a good future, because my husband can earn enough money for giving our son a better education than the education we had*". For men, it is different. A 53-year-old man in Dabuyang village always tries to find a way to make manure transportation and spreading easier, because that is his task. He uses a new way to spread manure in the field after he has transported it by tractor. A 52-year-old man in Dongkou village mentions that he found a good way to plow the corner of the field. A 45-year-old woman had good ideas on how to grow more and good cucumbers and tomatoes. She is doing the experimentation herself, because vegetable production is a woman's task and men do not think about it.

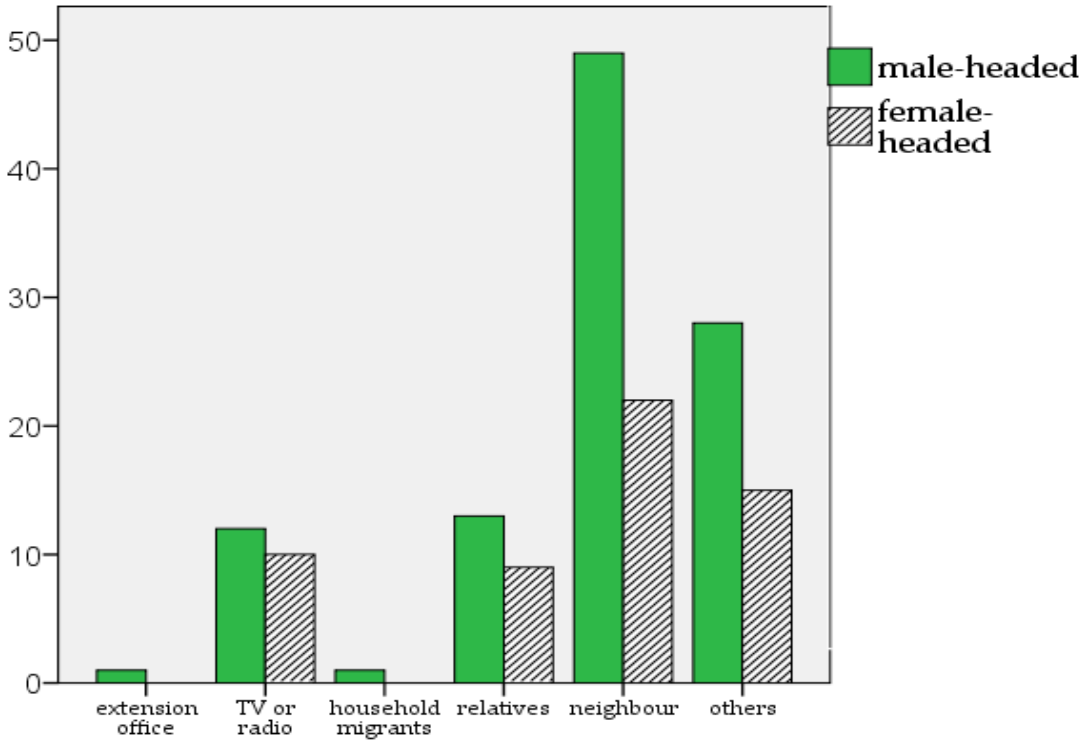

Figure 9.2: Technology channels for different household types (data from survey, 2008)

9.3.4 Villagers' experimentation and innovation

Farmers also experiment themselves, as they mentioned in several FGDs: "*We compare varieties of rice and maize every year, we compare the density of different seedlings. We know which one is better and we do not just follow the government's extension technologies.*" They did density experiments on rice and found that it is better to plant hybrid rice sparsely. They do not follow the instructions on the rice seeds' packages, but use the results of their own experiments.

9.3.5 Cases

In line with the important extension initiatives in the municipality (as discussed in section 9.2), we will now describe five cases. Information about the cases was obtained from township officials and villagers, through observation by the researcher and from interviews. These cases are used to illustrate the household's status in adopting agricultural technologies, which indicates the factors influencing the technology adoption and the adjustment to the household situation. Some cases are government-initiated, while others are farmer's initiatives. Farmers' initiatives and innovations in adopting technologies are further discussed below.

Case 1: hybrid maize

As mentioned before, the hybrid maize extension is not very successful in Dongkou village, although maize is the main crop in this village. This village is a remote one and there is no public transportation. Unmarried young people are mostly engaged in migration (mostly long-term migration) and are not at home. Twenty people commute to work in the coal-mine. All households except one have pigs, and maize is used mainly for feeding them. Villagers do not fully accept this hybrid maize and adopt it according to each household's particular situation. During a life history interview, a 47-year-old woman said: "*I have three working people at home but my son participates in few agricultural activities. We do not have enough time to grow hybrid maize on all the land even though it has high yields, because it is required to raise the seedlings separately and that takes time. The hybrid seeds are also very expensive. We cannot afford it because of my large landholding. We also want to spread the risks by growing hybrid maize on half of the land and planting local varieties on the other half. It is not allowed to intercrop with other crops according to the extension instruction, but we have a tradition to intercrop with sunflower and beans, which is a good way for spreading the risk as well. We change maize varieties every year because the seed shops change the varieties every year. We do not know the name of the varieties because I am illiterate. The pigs like to eat the local varieties and we need different quantities and qualities of maize every year, because we do not raise the same number of pigs*". A female villager who has graduated from high school said: "*I know the names of the varieties because I can read the instruction. I plant more varieties in order to pay for my expenses at different times, especially to pay the education fee for my son studying in professional school. The hybrid maize can be harvested earlier so I plant some to get cash at that time, but I do not want to plant more because of a labour shortage*". A 26-year-old wife in the 2000s cohort FGDs keeps to the idea to plant hybrid maize on half of the land because of its high yields; she has enough money to buy the seeds from her husband's earnings. A male interviewee said that he does not like to plant too much, because he does not like to do the weeding that hybrid maize requires.

Case 2: hybrid rapeseed

Hybrid rapeseed production is very labour-intensive, especially during the transplanting period. This conflicts with the traditionally busy period in November and December. During these months, the households are busy with sowing winter crops. The harvest time of these hybrid varieties also conflicts with sowing the

main crops, maize, and rice. The local varieties do not need transplanting and have no conflict with the sowing of main crops. The great labour shortage soon made the villagers give up this technology. A former village leader in Guntang village said during the interview: "*We could not plant the hybrid rapeseed because we could not make time for it. We have to grow our main crops first, because it is the most important for us. It is suitable for those households with less land. Most households in our village have too much land to cultivate because of the labour shortage*". Another factor is that oil from local rapeseed varieties is tastier, according to local habit.

Case 3: watermelon

I was invited by the Dongkau villagers to eat watermelon and they told me the watermelon story. Of course, I had heard about it, but at first I did not realize its importance to the villagers. When they harvest watermelon, the villagers are so happy to invite people to eat watermelon or take the fruit as a gift for relatives and friends. In 1994, two farmers from Anhui province came to rent land to cultivate watermelon in the villages of Xiaozhai and Dongkou in the municipality of Kaizuo. The two persons also rented a villager's house to live in during the growth period of the watermelon. At the beginning, the local people only provided labourers and observed the cultivation process. During the process, however, they learned to cultivate watermelon and mastered the technology. In 1997, the two men from Anhui left, but local villagers began to cultivate watermelon themselves because there were few households who cultivated watermelon in this area and the profits were high. Watermelon cultivation is now one of their main sources of income. There are about 43 households (50%) that cultivate watermelon in these two villages, yielding an average income per household of about 2000 *yuan*. During an interview in Dongkou village a man from the 1980s cohort said: "*I learned a lot from the two men because we saw what they did and I was able to grow watermelon after they left. Now, I even do experiments myself. I try to dig the sowing hole bigger and put in more organic fertilizer because we have enough manure, which those two men did not have. Our watermelon has a good taste and the consumers like to buy it, once they know it is our product*".

Case 4: the virus-free potato project

Most households have already stopped cultivating the virus-free potato. Only a few people like its light taste and some use it to feed their pigs. The households that cultivate potato are those old cohort households that grow it for their grandchildren to eat and for their pigs, because some still use traditional animal feeding technology, in which potatoes are cooked for pig feed. People do not care about potatoes very much, as they are unimportant for villagers' daily needs. Virus-free potato seeds are difficult and expensive to purchase in the local market. The government promoted the virus-free potato production because it is a project supported by the higher government. After the project, there is no sustainable support regarding the technology and materials. The households that use local varieties do not need to buy the seeds or they can buy seeds easily in the local market. In the past years, some traders have brought other varieties to sell in the

village, which are convenient for the villagers to buy. Those traders bring along different varieties every year, which allows villagers to use different varieties to get higher yields, too. As most people in the mixed FGDs in Dongkou village mentioned: "*It is really convenient that the traders come to sell in the village and that we do not need to look for the seeds in other places. The varieties they take are also better than the local varieties with higher yields, so most of us buy seeds from the traders. We do not need too much seeds because we only cultivate a little. We do not know where to buy virus-free seeds, so we gave up this introduced variety. We are using other varieties after we experimented with them. We find they are good, even though there is no support from the government. However, we can buy the seeds and we already have some experience. We really need virus-free technologies, but the technology services are really poor; most of us have no chance to get any training and cannot master the cultivation technologies. We could not find the virus-free seeds and could not experiment with them, either*".

Case 5: Mushroom story

This new technology is quite impossible to master by the villagers if the technology service is weak, because until now, no villager has mastered the cultivation technologies for this mushroom. Fen, a 56-year-old woman, said in her key informant interview in Dabuyang village: "*We followed their instruction very well, but there is no growth I can see. I go there every day with my worries about the growth, but I could not find anyone to ask. The company staff is not here after distributing the seeds. We talk among ourselves in the village but nobody knows how to do it. I invested 4000 yuan, but only earned an income of 1500 yuan. I will not do it again even if they try to persuade me. I am sure there is nobody who gets a positive net income from it. We are all disappointed. We spent a lot of time on it because we were told that we can get higher profits. Now, there is no profit at all*".

9.4 Discussion

As discussed above, we can see that although the government is investing in extension activities, most villagers do not know the government extension workers. Farming households mainly get their information from neighbours, relatives, and friends, while they only get limited information from the government. The extension service is still insufficient. Farming households get information from shops and the shopkeeper is playing the role of agricultural extension worker. The villagers also do experiments themselves and try to adjust the technologies to their own situations.

The government aims at large-scale and standardized extension services to increase yields. However, there are many mismatches between the government extension services and the villagers' needs (Sun, 2007). A high yield is not the only criterion for farming households to adopt the technology that the extension services promote. Their demands of technologies are more diversified, and for this reason, the dominating, high-yielding technologies are not always acceptable to them (Miao and Lu, 2006). There are many factors, e.g. labour constraints, age, gender, marketing options, traditional cropping systems, livelihood strategies, and risk avoidance, that influence farming households when they consider adopting

new technologies. Similar findings can be found in other research: age, education, experiences, the available labour, income, landholding, information channels, marketing, technology extension mechanisms, and local culture are important in the farming household's decision making on the use of new technologies (Dong et al., 2007; Meng et al., 2005; Wu, 2007; Zhao, 2006).

In the research area, migration is very popular. The diversified livelihood strategies divert labour to non-farm activities. Young people and male villagers migrate, which causes women, especially aged women, to work in the field, indicating a general shortage of labour. Because of this, labour-saving technologies are very important for farming households. The promotion of small agricultural machines, for example, can help the villagers to solve labour-shortage problems. Younger cohorts are more involved in non-farm activities. They do not value agricultural production and are trying their best to earn money from non-farm activities for their daily maintenance and their children's education. As Zheng (2004) has mentioned, the younger migrants know the importance of a good education and would like to invest more in their children's development. Meanwhile, younger cohorts have a higher education and make more use of reading materials, but older cohorts use visual materials or practices more. Women get less help from extension workers than men, even though they are the main producers for many crops. Adomi (2003) has also observed that, in Nigeria, female farmers have more problems in getting information than male farmers. (Nguthi, 2007) has observed that, in Kenya, the farmer's diversity in assets and activities should shape agricultural technology policy. Accordingly, farming households' needs for different varieties should provide the basis for the work of plant breeders (Guan et al., 2007). This would also increase the efficiency of the technology transfer (Dong et al., 2007).

Traditional information sources still play an important role in technology extension. The adoption of new technology mainly depends on a neighbour's demonstration and reading books and newspapers ((Gao and Li, 2006). It is necessary to set up a new extension mechanism that includes the farmers' participation, new extension services, and an evaluation system of the extension workers (Hu et al., 2006). While new technologies are introduced by the government, farming households are doing research and try out innovations themselves. The innovative technologies they develop are more suited to their context and needs. An example is hybrid maize intercropped with local crops. Men and women introduce different innovations in agricultural practice, based on their own work experiences.

It is necessary to have more interaction and communication between extension workers and farming households, and to combine the government's formal extension with the farming households' networking and information exchange (Zhu, 2002). Biggs (1990) has compared two kinds of extension models, the 'central source of innovation model' and the 'multiple sources of innovation model', and has shown the significance of the multiple sources of innovation model. In the latter model, the farmer is one of the sources of innovation. The model places agricultural research and diffusion processes in a context where many factors play a role, e.g. historical, political, and economic factors. The above results show that dominating top-down technology extension strategies, a central

source of innovation model, has met challenges in China. Therefore, it should be reconsidered. Applying a multiple source of innovation model to extension activities involves farmers in solving their problems. This research indicates that farmers are making innovations through their experiences and practices. The farmer should be considered a key actor in agricultural extension and innovation.

An alternative approach to traditional extension structures is that of the farmer field school (FFS), which is better adapted to the needs of farmers and in which the farmer are the facilitators (Cao, 2005). Farmer field schools started in Indonesia in 1989 and have now spread all over the world, including China (Braun et al., 2006). They were originally designed to introduce knowledge on integrated pest management to irrigated rice farmers in Asia (Quizon et al., 2001). The farmers were trained through experiential learning in FFS; it is a farmer-centered approach (Braun et al., 2006). It is common that some farmers adopt new technologies quickly and others more slowly. Meanwhile, different farmers have different learning styles and have different experiences, so the FFS gives opportunities to farmers to learn from each other and transfer technologies among themselves. The latter was already happening in the research area. The FFS educates rather than instructs and is suitable for farmers who with little, if any, formal schooling (like aged women). Its goal is to improve farmers' knowledge and decision-making abilities, to increase their competence in dealing pests and crop management problems on their own (Rola et al., 2002). It aims at empowering farmers through training in skills and concepts. Its basic elements are the group, the field, the facilitator, the curriculum, and the programme leader (Gallagher, 2003). The FFS also provides opportunities for innovation through sharing experience among farmers (watermelon story). Hence, it can strengthen the community-based agricultural development. The FFS can be integrated with other participatory research. However, participatory approaches that treat households and communities as unitary and homogeneous are questionable (Cleaver, 1999). The extension workers should take into account the diversity of households when applying the FFS approach.

To summarize, this chapter discussed the government's extension activities, the adoption of innovations by the farming households, and farming households' own innovative practices. The results show that extension activities meet many problems because of a top-down approach (Sun, 2007). For example, the promotion of high-yielding varieties was not matched with the farming households' diversified needs. In the study area in the mountainous province of Guizhou, farmers' needs are more diversified because of the highly diversified ecological environment. Funding for farmer field schools is an option for agricultural extension, and success stories in China and other countries can serve as an example. In FFS, extension workers do extension by facilitating farmer-to-farmer training. Additionally, different groups should be targeted by different extension methods. The high incidence of migration makes younger and older cohorts have different attitudes to and skills in agricultural production. Women and men, younger people and older people should form different study groups. Younger people and men could have more lectures, while older people and women could have more practical sharing. I want to emphasize here that older farmers are interested in learning technologies and have the capabilities to combine traditional

technologies with modern technologies. The target groups should not only include the younger and higher educated cohorts, as in traditional extension. The important thing is how to involve older cohorts by using a method that is easily accepted by them and does not exclude them because of their lower level of education and old age. Especially the older women, the major agricultural producers, should be included. The training for extension workers should include communication and extension skills and not just technical knowledge and skills.

Chapter 10
Conclusions and discussion

This research aimed at identifying the changes in the farming household, gender roles, and rural livelihoods after the introduction of the Household Responsibility System (HRS). It analyzed the relations between the changes in the household, gender roles, livelihood, and land use strategies, as well as their impacts on rural society, to understand the heterogeneous household land use practices in the context of diversified livelihood portfolios, and to provide policy recommendations for agricultural technology extension. This concluding chapter is based on the findings and discussions in the previous chapters. It contains three parts. In the first part, including three sections, I will formulate the conclusions regarding the answers to the ten research questions. In the second part, I will discuss some key issues emerging from the research that make visible the processes of social change since the implementation of the HRS. At the end of the chapter I will reflect on the methodological design of the study as a way of measuring social change.

10.1 The changes in farming households since the HRS

Farming households have lived through many changes since the HRS, as compared to the collective era, in terms of marriage, household formation and structures, resources, land use, gender roles, and livelihoods. The following conclusions aim to answer the first three research questions for the first objective, which addresses the situation of rural households during the collective era and the changes that set in after the implementation of the HRS. The answers are mainly derived from the literature review, participant observation, interviews with (former) village leaders, and from focus group discussions (FGDs) with elderly people.

10.1.1 Characteristics of Chinese farming households in the collective period

Question 1: What was the character of the Chinese farming household in the collective period?

Marriage and household formation

Most couples got married by their parents' arrangement. Normally, relatives, friends and neighbours introduced the wife and husband to be to each other. Most couples only met each other a few times before they got married. Young women were arranged to marry in nearby villages and were expected to look after their aged parents, usually living with their husband's parents after their marriage. The new couple formed their independent household only after the birth of their first baby. There was no land to divide and the new couples almost got nothing from their parents to set up their independent household. They had to work for the

collective to earn work points in order to get food. The parents usually lived with their youngest son. Buyi women usually stayed with their own parents until they gave birth to their first baby (a custom called *zuojia*, see Chapter 4). In the past, rural women often got married before they were twenty years old, although Buyi women would deliver their first baby several years later because of the *zuojia* custom, which postponed the formation of an independent household.

Resources

During the collective era, there were not many differences between households in terms of physical, financial, social, and environmental resources. There were some differences because of a different amount of available labour and skills, but these were not very big. Village leaders, nevertheless, had more social resources.

People older than 18 were considered part of the labour force. They were all required to work on the collective land to get work points. Some younger children and aged people also worked to earn work points because these were needed to sustain the household, even though they would get fewer points than regular adults. People got food based on the work point allocation system – *renqilaoshan* (see Chapter 2). This means that households got food allocated, based on household size for 70 percent and based on work points for the remaining 30 percent.

Houses were small and were made of wood or soil with a grass roof. Most brothers shared a house even when they had separate households, because they did not have the money to build their own house. New houses would be built only after children had been born and the respective families sharing a house had become too large to live together in one house. Poor quality houses were described by some elderly villagers as "*an open place in sunny days and a muddy place in rainy days*". Villagers helped each other with many activities, e.g. building houses, for which they did not receive any payment. The host would generally only feed the helpers. Help from parents, relatives, and neighbours was also common.

There were few products in the market and there was only one cooperative shop in the municipality of Kaizuo that sold daily necessities. Coupons were required if villagers wanted to buy goods there, but there were only a few coupons available because of the limited amount of available goods. There was no tap water and no cement road in the villages under study here. Most households had to rely on firewood as their main fuel and did not have access to electricity. Villagers only had a home garden from which they obtained an income and products. All other income and products came from collective land and activities, and these belonged to the collective. They were divided based on the work point system. The village management committee was responsible for this division.

Village leaders used to arrange village production and activities. In order to do so, they had many official meetings about village management and production. Village leaders had a lot of decision-making power about production and were more exposed to the outside agricultural production than other villagers were.

Land use and livelihood

Farming households had no individual land to cultivate, apart from a small parcel of home garden. Cattle and pigs were managed by the collective as well, although some individual households were appointed to take care of them. Only a few households raised chickens because people did not have enough food for themselves, let alone to feed animals. The low benefits from collective land and the poor standard of living did not motivate villagers to work in the fields. Working hours were spent idle. Nevertheless, the villagers did try to find spare time to work in their home garden; they took better care of their home gardens than of collective land. In the collective period, agricultural yields were low; about half of the households in the study area had to borrow food from the collective that had to be returned the year after. Agricultural production was the main income resource. The collective allocated sideline activities to only a few skilled villagers and contracted them for it. Those skilled people got higher work points and thus more food from the collective.

It was hard to buy daily necessities in the market at that time, and villagers usually cultivated different kinds of crops for their own consumption. Beside the common crops (rice, maize, rapeseed, potato), other crops such as sweet potato, wheat, barley, and oat, were cultivated. Villagers were busy with agricultural production the whole year round and had no leisure time.

Agricultural technologies were introduced by government extension agencies. Village leaders received training in these new technologies from extension workers and the villagers would follow them. Villagers themselves hardly got any training in new technologies.

Gender issues

Gender issues existed in the collective period. According to the work point allocation system, people got the same work points for the same task, while different tasks were rewarded with different amounts of work points. The highest amount of work points in agricultural production was allocated to ploughing, which was always done by men. As a result, women earned less work points. In general, women used to do the transplanting and weeding, with which they earned an average number of work points. Men used to do some weeding, but no transplanting. All activities rewarded with less work points, such as raising pigs and looking after cattle, were performed by women, children, elderly people, and handicapped people. Some craftsmen were sent out for sideline work, for which they got higher work points, but these were always men. In this way, even though the system was supposedly gender-neutral, in reality, big gender differences arose.

Women were thought to be easy to keep under control and were assumed to have collective spirit. Li (2005b) has found that female workers were less argumentative than adult males during the collective era. Village leaders were usually male and only a few villages had a female village leader. Yet, even when the village leader was a woman, she was only held responsible for managing the women in the village and did not get the chance to attend government meetings and visits. As in many other parts of Asia, women were often excluded from public

decision-making bodies that enforce and modify the rules governing the community (cf. Agarwal, 1997).

When returning from the field, the women still had to finish their domestic tasks, while the men could rest. There were no grain-processing machines, and there was no electricity or tap water. Sometimes, women had to stay up overnight to process rice and maize manually, and they had to queue to fetch water, especially in upland villages. The household heads were men. However, among the Buyi, there were many *de facto* female household heads in the collective era, which was a deviation from mainstream patriarchal culture. This can be explained by the frequent absence of men who joined the military in ancient times (Ge, 2003). A similar pattern has been found among the Gurung in rural Nepal, where men traditionally joined the army and women became head of the household (Tiwari, 2007).

10.1.2 Land allocation and land use

Question 2: How was the land allocated to and used by households?

With the implementation of the Household Responsibility System, in 1980 and 1981, land was allocated to individual households in the municipality of Kaizuo. When the land was allocated, the policy regarding duration was unclear. Most households heard that the contract term was three to five years, and after that term, the contracted land would have to be returned to the collective. For that reason, most farming households did not pay much attention to the fairness of the allocation, and in most villages, the division of land went smoothly. A few households gave up their claim to part of the allocated land, so that the village leaders had to cultivate this abandoned land. Some households did not know exactly which land was allocated to them, because the men worked in other places and women were not regarded as legitimate participants in collective meetings. Women were almost completely excluded from the allocation process. About half of the women were not aware of their landholdings or its location, especially regarding forestland. Later on, the land allocation policy was clearer and the contract term was increased to 30 years, but the land was not reallocated. Only at that time, some farming households began to complain about the inequalities in distribution.

The criteria and system of land allocation were the same for many villages. The land was allocated based on household size. Every person got the same landholding if he/she is living in the village and without urban *hukou*. All collective All collective land was divided into three kinds of land in terms of land quality, - good, average and poor - and two kinds of land based on distance, - far and near. Thus, there were six types of land in total. Each household got land of each type and, as a result, had at least six pieces of land. Some bigger parcels were divided into small pieces to attain an equal allocation. Some households even got more than 15 pieces of land. The arable land was divided into small pieces, making it very difficult for the villagers to cultivate. They had to make small dividing paths, which caused many quarrels about borders. These quarrels usually took place among women. Due to household division, more households were formed after

the implementation of the HRS. These households had to create field divisions between the lands of brothers, so the patches of land became even smaller, which made cultivation more difficult still. However, because of the increase in migration (especially long-term migration) during the 1990s, the labour force was no longer sufficient, so bad quality upland began to be abandoned.

10.1.3 Changes in farming households after the implementation of the HRS

Question 3: What are the changes in farming households after the HRS, in terms of household structure, composition, size, sources of income and livelihood (including land use), and gender roles?

After the introduction of the HRS, there have been many changes in rural households, gender roles, and livelihood strategies. The household size has been decreasing, mainly because of declining fertility, in which both the land limitations and the encouragement of family planning by the government played a role (Vermeer, 2006). At the same time, some households were initially divided, but the married child and parents pooled resources and started living together again, because long-term migration requires parents to help younger couples in looking after their children and land. Younger people have been getting a better education since the HRS, due to the compulsory education campaign and changing values attached to education. Girls and boys have been equally well educated and are regarded as more equal in many respects. Most young people finish middle school, as is obligatory (see Chapter 8). Young people have more opportunities to meet each other and date without interference from their parents or other relatives. Arranged marriages have become rare. Increasingly, young wives come from villages farther away. Household division, however, still occurs after the first baby is born, as in the collective era. However, new couples now get more financial support from their parents for the wedding and they receive more goods when the household is divided. For Buyi women, *zuojia* still exists, although the period during which women stay with their natal family after marriage is becoming shorter. Raising children and education are priorities for young couples. They migrate in order to earn money for their children's education and leave their children with their grandparents. The need for help from parents is increasing and, although formally divided, the households of married children are not really independent. Increasingly, younger couples stay together with their parents and regard them as household members. The household size does not differ much across cohorts, but the younger cohorts have fewer children. They realize that the education of children costs more money and that the land has to be divided among themselves and their children. So, beside the government's family planning policy, small landholdings allow for no more than one son as well (Vermeer, 2006).

Income sources are becoming more diverse. The main income source is no longer agriculture. More cash is coming in from migration, animal husbandry, and other resources. In the past, households with government officials or small shops were richer. Nowadays, having migrant household members can make households relatively rich. Agricultural feminization started between the late 1980s and early 1990s. At first, only young and unmarried people migrated. Later on, married men

joined them. As of recent, increasing numbers of young couples migrate together and the elderly, women, and children are left at home. Long-term migration is very common for the younger generations, while circular migration is common for middle-aged people. Only elderly people fully depend on their land. Villagers run small shops, work in mines (both coalmines and quarries), own transportation businesses, work in trading, or sell wild vegetables and medicinal herbs. People have surplus agricultural products to sell because they have high yields and fewer mouths to feed at home. Agricultural products can now also be used for fodder. Increasingly, traders come to buy non-timber forest products. The value of these resources has increased, especially for women, elderly people, and children, because they are at home and are interested in harvesting these products. At the beginning of the implementation of the HRS, there were food security problems, but these have lessened.

Landholdings were transferred to other villagers because, in many households, migration (especially long-term migration) caused a labour shortage. Land was mainly given or rented out to close relatives and neighbours in the same village or nearby villages. Young couples have begun to abandon land because people are less interested in agricultural production and migrate more often, especially in recent years. At the same time, households of older cohorts abandon land as well, due to the shortage of labourers. More cash crops are introduced and cultivated, such as fruit trees, mushroom, and watermelon.

The government has been campaigning to promote the ideological equality between men and women. Additionally, the increasing number of migrants contributes to the spread of egalitarian ideas from urban to rural areas. Young wives are happier than elderly women are, because they are treated as equals by their husband. However, younger wives also have a larger role in agricultural production, because their husband has migrated or only comes back for the busy season. These women work the fields alone or ask help from their parents-in-law. Increasing numbers of younger women can plough, which formerly only the men did, and are *de facto* household heads. If the husband is around, the couple shares more activities. As a result, the division of labour is not as clear-cut as it used to be. Young men, for instance, now more often transplant as well. However, for the 1980s cohort, the gendered division of labour is rather rigid. Some men migrate circularly, so their wives have to manage on their own during the non-busy season. In this cohort, the husband rarely does any transplanting. In another province, the province of Yunnan, different from the trend in the research area among the younger cohorts, during the 1990s the gendered division of labour remained very much the same (Bossen, 2002).

Aged couples usually work together, but their division of labour is clearer than that of younger couples. There are only a few households of which the wife migrates and leaves her husband behind to work the fields. Newly wed couples take more time to take care of their children and the wife does less work in agriculture. Younger couples believe children should be well nourished and get a good education, so it is becoming more common for husbands to migrate and hire people to work the fields, or to ask for parents' help, while the wives take care of the children.

An interesting finding is that the daughter-in-law has become more powerful than the mother-in-law, which is a reversal of the situation in the past. This was also found by Chen (2004). In the past, the mother-in-law would request the household division, while the young couples just waited for the parents-in-law's decision (IFAD, 1995). Nowadays, the daughter-in-law is the one who takes the initiative. These younger women can also make more decisions at home, even if their mother-in-law works harder than they do. Chen (2004) gives as a possible reason that the daughter-in-law engages in more cash-oriented agriculture, while the mother-in-law does more unpaid household work. In our research villages, it may be true that the daughter-in-law earns more than the mother-in-law does, but it is mostly in non-agricultural production. Another possible explanation may therefore be that younger couples have more opportunities to go away, while most young wives gained migration experience before they got married. The younger women are no longer confined to their home to do domestic work. If the mother-in-law is too critical, the daughter-in-law has the possibility to go away to work and escape her mother-in-law's control.

10.2 Interrelated changes in household, gender roles, land use and livelihoods

Changes in rural households, gender roles, and livelihood strategies are complicated. Such changes are influenced by the Household Responsibility System and many other policies and factors. The relations between changes in households, gender roles, livelihood, and land use strategies since the HRS are dynamic. They have both positive and negative effects on rural society. This section aims to answer the five research questions subsumed under the second research objective. The results discussed are derived mainly from the household survey, the focus group discussions with both men and women from the four cohorts, and from case studies.

10.2.1 Household types and decision making on land use

Question 4: How do different household types influence the decision making on land use?

According to the survey and FGDs, most rural households regard themselves as middle-level households. Only a few households belong to the rich or poor households. The poor households are not good at managing agricultural production and daily life and/or suffer under a shortage of labour. The rich households are those who have surplus labour, which can be used for migration and earning money. Some rich households begin to return to the area to conduct business, so they can take care of the household and earn money at the same time. Households that fully depend on their land for their livelihood have had no opportunity to become richer.

For most rich households, agriculture is not their main source of income. They see their land as social security on which they can fall back in the future, if necessary. Most middle-level households diversify their land use and cultivate more cash crops. The poorest households are not good at land management and only cultivate a few crops. No household wants to give up its land completely, even if it has few landholdings. Households with few landholdings plan to work outside the area until they can no longer earn money by migration. Nobody wants to make his or her long-term migration permanent. All migrants plan to come back eventually, and take up agricultural production again. Presently, however, they need to earn money to build houses, to pay for their children's education, and for their household consumption.

10.2.2 The household's life course and decision making on land use

Question 5: How do the different stages in the household's life course influence the decision making on land use?

Some households of the 1980s cohort and most households of the 1990s cohort are in a very difficult situation because they have to pay for their children's education. Compared to the 1970s and 2000s cohorts, these two cohorts also have less land (see Chapter 7). The households from these cohorts migrate most often, to earn cash for their children's maintenance and education. Increasingly, these households give up on agricultural production altogether. Some households do not migrate, so they have to cultivate their land intensively to get more cash, or they try to earn money by trading or in the transportation business. They value cash crops very much. Thus, contrary to what the All-China Women's Federation (ACWF) (1991) once said, it is not the youngest households, couples who are in their first years of marriage and have young children (that is, people from the 2000s cohort), who have the most difficult time.

Many households in the 2000s cohort migrate. Those who do not migrate, usually try to diversify their sources of income by undertaking activities in transportation, trading, and other businesses. Agricultural production is not their main activity and they prefer to get money from other sources. Their parents usually help them with agricultural production. They are more market-oriented and prefer to earn cash and to pay for vegetables and other food in the market, instead of growing it themselves.

The households from the 1970s cohort have relatively big landholdings because more household members got land in the land allocations of 1980 and 1981. They work hard in the field and only a few men are engaged in circular migration. They have to save money for their children's weddings. Many take care of grandchildren, and some cultivate their children's land. Some rent additional land to cultivate, but most do not have enough energy and only work on their own land. Households from the early 1980s mostly migrate circularly, with one spouse staying behind. They have more energy to work on their own land and rented land. They do not have as much land as households from the 1970s cohort and have to rent land. Most households from the 1970s and early 1980s cohorts invest

more time and money in agricultural production because their children can send some money back for them to use, and they can sometimes earn money by doing circular work. However, they spend less money on daily costs than the younger cohorts do. They employ labourers to work for them in the busy season. They are rich in experience and are eager to learn more about land management and modern technologies, and are thinking about technological innovations. At the same time, they prefer to cultivate more diversified crops for their own consumption. They worry about land degradation and pollution, and some have an awareness of organic agriculture.

10.2.3 Gender and decision making on land use

Question 6: How does gender influence the farming household's decision making on land use?

The women prefer to cultivate more diversified crops, and try to get information on all kinds of crops they know, saw or heard about. Men are more interested in cultivating staple food and cash crops; they prefer to get money from other resources besides agricultural crops. The men think that information about non-staple food is not very important and leave it to the women to take responsibility for it.

It is common that the one who carries out the job also makes the decisions about it. This applies especially to younger couples. Arduous and technical jobs (ploughing, the transportation of products and manure, the operation of agricultural machines, herbicide application) are men's tasks. Women's tasks are usually time-consuming and non-technical (manual weeding, transplanting, manure spreading, and harvesting). If women are left at home and are responsible for agricultural production, they also have more decision-making power in agriculture than men have. Chen (1996) has called this the female-managed farming household. Home gardening is a woman's domain and men rarely give support or participate in it. Men have no knowledge about home gardening and look down upon it. Yet, there is a relationship between women's specialized knowledge and skills in relation to plants and their contribution to subsistence (Howard, 2003). Actually, the vegetables, beans and fruits produced in the home gardens are important for meeting a household's daily food needs. Recently, more small agricultural machines have been introduced (ploughing and harvesting machines). These machines can save energy and solve the labour shortage problem. Because the use of these machines requires certain skills, mostly men are using them. Men are still regarded as more skillful, even though women need those machines as well, because they are in charge of agricultural production when their husband migrates. Usually, men have more opportunities to benefit from new technologies, because these technologies are designed for male users, not for women. This may affect women's status in a negative way. In sub-Saharan cultures, the shift to a more urbanized society often reduces women's status because rural women may not be socially equal to their husbands, although their work on farms is recognized and valued (Boserup, 1970).

10.2.4 Livelihood strategies in relation to gender and life course

Question 7: How are the different livelihood strategies influenced by gender and life course stage?

Younger cohorts prefer to migrate or engage in their own business and do not pay much attention to agriculture. They leave their land to their parents to manage, or rent it out to others. They do not charge the tenants and only ask for some products in return. Older cohorts stick to agriculture and animal husbandry; only some engage in circular migration. They rent land to cultivate, even though they get limited profits from their land use. They have to stay at home for agricultural production because they are not accepted by factories. Most of them also have to look after their children's land. Some mention that they would like to work in the factory to earn more money if they were accepted there, but most prefer to work in the fields and feel it is less risky, considering their situation. They use agricultural products to feed their animals, while some earn cash selling animals. Some households from the older cohorts own small factories, small shops, transportation businesses, or work in trade, but this does not happen often. Households from the younger cohorts, however, increasingly try to engage in trading, running a shop in the municipality, or conducting a transportation business.

Many of the younger women and men have long-term migration experience and keep migrating after marriage. Younger husbands prefer to conduct non-agricultural activities. Even though they do not migrate, they prefer the transportation business and trading to agriculture. Agriculture is not regarded as their main livelihood activity. About half of the younger wives migrate. Those left behind work in agriculture, but they get help from their parents-in-laws. Few older women have migrated, and most work exclusively in agriculture and animal husbandry. Almost all migrants say that they will eventually return to their hometown. All the migrated (migrating) women just want to earn cash; they do not expect to live in urban areas in the future. Lou et al. (2004) also found that, for married women, migration is a temporary activity to earn money. A number of aged men still engage in circular migration, e.g. in construction and mining. They earn money from both agricultural and non-agricultural activities.

Local enterprises are good for the villagers to take care of the households' agricultural production and to earn money at the same time. The local enterprises are very few and small. Only a few villagers work in a local enterprise. They are usually elderly men, or people coming from poorer villages. The villagers in the research area prefer to go to industrialized provinces to earn higher wages and use the money to employ people to work on their land in the busy season.

10.2.5 Impacts of changing household livelihood strategies on rural society

Question 8: What are the impacts of the changing household livelihood strategies on rural society?

Migration causes a serious labour shortage in agricultural production. The free exchange of labour is decreasing, because many households do not have enough labour available. Meanwhile, money-oriented employment is increasing. The unity of rural society is decreasing, and it is increasingly difficult in the villages to organize community activities. Nobody wants to be the village leader because it takes a lot of time to do a leader's tasks (Sun, 2007). At the same time, the mutual help of villagers, relatives, and friends plays an important role in the migration process. Some self-help groups have been organized, such as *zahui* for raising money, and there are some recreational women's groups.

Currently, rural society is mostly composed of women, elderly people, and children. Women are left at home and make decisions in many fields, and more *de facto* female-headed households are emerging. However, women are not yet regarded as suitable community leaders. Women participate in many activities, even if they are not village leaders. They started to organize group tours to visit scenic spots for which formerly nobody would have had the money. They also began to engage in leisure activities, like singing and dancing. People who have extra money start a *zahui* group. Especially women take up this activity. Women play an important role in rural life, although it is not formally recognized. Out-migration of husbands gives wives the chance to assume more responsibilities, resulting in the acquisition of new skills or new areas of competence, which in turn enhances their visibility (Murphy, 2004). The men's earnings have increased, however, which might make women's status lower than it was in the past (IFAD, 1995).

Rural society has opened up and returning migrants bring new ideas from outside. Migrants are more confident in their daily life after their exposure to the outside world. For many households, agriculture no longer is the main income source and a greater choice of professions is emerging, such as that of businessman or trader. Cases of abandoned land are increasing.

Although the trend of increasing long-term migration is obvious, most villagers plan to come back after they have earned enough money or can no longer find a job. None of the female migrants wants to migrate permanently, so all will someday return for farming (Lou et al., 2004). However, by then, the quality of the land may have declined, due to mismanagement. Many couples now attach more importance to raising and educating their children, especially younger couples. Although children now get a higher education, some children break off their education at middle school because they prefer to migrate to earn money. Since migrants have started to leave their children at home, their education sometimes falters because the grandparents who usually who take care of their daily needs have no time and energy to look after their studies.

Villagers now have better living conditions and more leisure time than they had in the past. They feel that life is better and build increasingly nicer houses. Compared with older couples, younger people have more time to relax, even to gamble. At the same time, grandparents, especially grandmothers, have come to carry the largest burden. Younger couples form independent households, but when both migrate, they leave their land, children and house for their parents to look after. They usually leave when the children are older than two or three. Their parents still work hard in the field and have to look after their grandchildren

as well. Elderly people are the busiest and most hard-working people in rural households. This applies especially to aged women.

The economic differences between farming households are not as big as they were in the past twenty years, because diversified livelihood strategies give households more opportunities to earn money in different ways. At the same time, the government provides several subsidies to poor households. Occupational stratification is increasing and new occupations emerge, such as that of the business person.

10.3 Implications for agricultural extension policies

The multitude of changes that have occurred within households after the implementation of the HRS in terms of the aforementioned aspects imply that current agricultural extension policies should be adapted to the local context in order to be accepted by the local villagers. The following section will discuss these issues and will thus provide an answer to the two research questions about agricultural technology extension.

10.3.1 Agricultural extension and farming households' perspective

Question 9: What are the current agricultural extension policies and delivery mechanisms, and how appropriate are these, as seen from a household perspective?

The government still delivers agricultural technologies in a top-down way, as they used to do in the collective era. The municipal agricultural extension station has no autonomy and has to follow the county's arrangements. The top-down approach does not give villagers any voice in the extension process and does not match their needs. Most technologies do not last long, even after intensive extension activities.

Farming households have poor access to information about agricultural technology, even though the demand for it is large. The experiences gained from migration do not bring them information on agricultural technologies because most migrants are working in non-agricultural activities. Government technology services are very limited and cannot supply enough help to meet local needs. Villagers have no intention to depend on the government's technological support. Mutual learning, autodidactic learning, and other informal ways of learning are common. Most villagers agree that "seeing is believing".

Farming households have diversified resources and requirements for technological information. In Kenya, it was found that HIV-affected farming households have diverse needs for technologies, which are insufficiently considered by the extension agents (Nguthi, 2007). The government's extension services cannot meet the diverse needs for technologies. Labour shortage is common for households and they need labour-saving technologies and support, e.g. herbicides and small agricultural machines. Younger cohort households need more technologies for cash crops, and they also need more cash input for scale development. Older cohort households prefer to plant different crops instead of only cash crops; hence, they need technologies for diversified crops. They do not use chemical fertilizers and pesticides much, but it is increasingly hard to get

manure because animal husbandry is decreasing. Older people have a lower education but are rich in experience, while younger cohorts have a higher educational level and can depend on written information. Upland households need more animal husbandry technologies, while households from paddy field areas need more technologies for cash crops. Female-headed households and older couples need more labour-saving technologies. Women and men have different kinds of knowledge about agricultural production, but home gardens are completely women's domain.

10.3.2 Implications for agricultural extension

Question 10: What are the implications of diversified land use and livelihood strategies for agricultural extension?

Migration brings about an increasing labour shortage and causes the phenomenon of agricultural feminization, which requires more appropriate technologies for women and elderly people, e.g. labour-saving technologies. Visits from extension workers are very important and should be organized to expose villagers to different technologies and skills, since for them "seeing is believing". Villagers' needs for diversified technologies imply that the top-down approach should be modified to include villagers' ideas.

Although local, informal self-help groups have been organized, these do not deal with technological learning. It is necessary to organize communal cooperation to share experiences and learn technologies, to provide production materials, and to spread information among the villagers. Younger and older people should get different kinds of training because of their different learning styles and knowledge. Older people should not be forgotten because of their lower level of education, since they play a crucial role in agricultural production in current rural society. Older women are more attached to agriculture than other groups and should receive special attention. The Farmer Field School approach is an option, because this kind of knowledge transfer does not require formal education. This will only work, however, when the facilitators are sensitive to the information needs of elderly farmers, particularly women.

It is very important to set up a land transferral policy, to avoid land abandonment when people migrate. However, such a land transferral policy should take into account that land still serves as social insurance. Sustainable land management and sustainable agricultural development should be considered in extension; organic agriculture, for instance, can be integrated into this. Organic agriculture is more labour-intensive, however, which is a dilemma for its development in an era of massive migration.

10.4 General discussion

Based on the findings above, the following sections will discuss some important issues that emerged in the research. These issues are fertility levels and family size, gender, livelihood (including migration and land use), and interrelationships of social change, livelihood change, land use change, and stratification.

10.4.1 Dimensions of social change

As discussed above, many changes occurred after the implementation of the HRS. The research shows that fertility levels and the value of children, gender roles, and livelihood (land use and migration) have changed, which necessitates further reflection.

Fertility levels and family size

In 1978, China started its economic transition from a closed, planned economy to a market economy. Almost simultaneously, many other policies, including the HRS, land policies, and the family planning policy were implemented as well. The family size has been decreasing since then, as also indicated by the differences between older and younger cohorts in this research (see Chapters 6 and 8). The implementation of the land allocation policy in Guizhou only allowed land to be redistributed when married children established their own households. However, this redistribution is done only at the level of the (parental) household; there never was a land reallocation at village level (Shao, 2000). There is no additional land, even if there are new household members. Therefore, the more siblings there are to share parents' land, the smaller the average landholding is for the grown-up children. In the research area, the households of the 1980s cohorts have significantly smaller landholdings than those of the 1970s cohorts. This raises the question whether the HRS and the land allocation policy played a role in the decline of fertility among rural households.

In 1978, the Chinese family planning policy started. Although it was not very strictly applied to rural areas at that time, it still triggered the decline of fertility, from an average total fertility rate of 2.8 in 1979, to an average total fertility rate of 1.8 during the 1990s (Vermeer, 2006). Coale ((1973) has postulated that for fertility to decline, three conditions should apply. The first one is that fertility should be perceived as a matter of conscious choice and control. The second one is that a lower fertility is perceived as being more advantageous. The third one is that means of birth control are available. Caldwell (1982) has explained fertility decline by his theory of the reversal of wealth flows. The argument is that when more wealth flows from parents to children, – the costs of education, for example –, than wealth flows from children through their labour, the value of children will change in such a way that having less children becomes more advantageous (Coale's second precondition). Of course, fertility control is not just a matter of economics; social factors influence it as well (Caldwell and Caldwell, 1997). McDonald (1993) has pointed to a number of factors to explain the fertility decline in Asia, such as the need for education and the decline of infant mortality, but has also argued that one explanatory model is not sufficient to explain diverse fertility decline phenomena.

Can the wealth flow theory explain the fertility rate decline in China? After the implementation of the HRS, land was allocated to each household. Because each married son would get a land share from his parents, the average landholding became increasingly smaller. The more children, especially sons, a household has, the smaller the share of each child or each son will be. This discourages having

many children. At the same time, the value of children changes because of migration (especially long-term migration) and government campaigns that emphasize the importance of education. While in rural areas people can have more than one child and education was not so important, rural-urban migration exposes villagers to the urban model of the one-child family and the value attached to children's education (Schultz and Zeng, 1999). The younger cohorts engage in labour migration (mainly long-term migration) before marriage. They value their children's education highly because of the difficulties they themselves have experienced for their lack of education. Another important factor is that younger cohorts have more freedom and power to make choices about fertility, because their parents' power is decreasing. Children are no longer expected to give much in return to their parents, so the value of children is decreasing.

Even before the family planning policy was implemented in the late 1970s, the fertility rate had decreased rapidly because the government began to advocate having fewer children during the 1970s. The fertility rate was 2.8 in 1979, but in 1959 it was above six (Vermeer, 2006). At the beginning of the collective era in 1958, a larger household size meant that more work points were given to the household, which encouraged people to have more children. The fertility rate decreased very quickly during the 1970s, which can be explained by the government's campaign on family planning from the early 1970s onward. Another possible reason is that villagers already met difficulties if they had many children because of the problems with food security in the 1960s, which more work points could not solve.

According to Li (2004), the family planning policy has a negative impact on women and their families, because the preference for sons still exists. This research does not show that. In the interviews, people mentioned that many households have both a son and a daughter, but that nowadays, younger couples who have two daughters are happy, too. Since young women's empowerment has increased, especially vis-à-vis their mother-in-law, they have more say in the decision making on fertility, which lowers the fertility rates.

Gender

In Chapter 6, I have described many female-headed households and I have found women to be active in many ways. Traditional Chinese society is a patriarchal society, but within subcultures and among ethnic minorities, female-oriented ideologies can be found. In this study, Buyi women in many cases are household heads. A possible reason is that, in former times, men have always joined the army in Buyi society. They went to war in the past, and women were left behind to manage the household (Ge, 2003). This provided women with opportunities to become strong enough to head the household. This ideology has been passed on through time. Tiwari (2007) has also found that women from the Gurung minority used their agency in the Hindu-dominated society of Nepal to achieve a lower fertility. Gurung men usually joined the army, giving women the opportunity to head the household and make important decisions. Nowadays, they have the autonomy to decide to divorce and leave their husband. I found women of the Dong, another ethnic minority in the province, to have a female-oriented ideology as well. Each Dong woman joins different kinds of groups for women's activities at

different stages in her life course. There is one Dong village where women have had indigenous knowledge about birth control for hundreds of years, passing it on from mothers to daughters. The women play a key role in birth control and benefit from it. In this village, women and men are equally entitled to land and land is reallocated every five years. Judd (1989) has stated that, in rural China, women should not be seen as just victims of patriarchy, but as agents in the everyday practice of kinship. In our research area, women were traditionally arranged to marry in nearby villages so that they could maintain strong relationships with their natal family *(niangjia*), which empowered them to be active agents.

After the HRS was implemented, more men than women migrated, which made women *de facto* household heads, reinforcing the influence of a female-oriented ideology in an otherwise patriarchal society. In this research, I did not find that female-headed households are more poverty-prone than male-headed households (cf. Chant, 1997). However, this is because, in a context of migration, women become only *de facto* household heads, while their husbands are absent but support the household financially. This situation is different from that of a *de jure* female household head, like a widow, who has to fend for her own. When the men are absent to earn money by migrant labour, women are working in agriculture and do all the decision making relating to the farm (cf. Chen, 1996). According to Liu (2008a), in rural China, female headship of households empowers women and benefits children, as indicated by the fact that children in female-headed households grow taller than those in male-headed households.

Nowadays, traditional ideas are abandoned in rural areas, too, and men and women are perceived as equal (Yang, 2005). Economic conditions influence the division of labour within households (Chen, 2004). The division of labour between men and women is changing, although less so for the elderly. Married women usually stay at home after marriage to look after the land, the children and elderly, even if they did migrate before. The ACWF (1991) has also found that middle-aged and younger wives work on the farms and take care of the house and children at the same time. They choose this household livelihood strategy, even though especially younger wives still expect to migrate at a later stage. For younger unmarried people, migration mainly serves their own personal development, and they keep most of the money they earn for themselves. Married people migrate to strengthen the household economy and enhance the well-being of the family. Household members have both individual strategies and joint strategies ((Niehof and Price, 2001). However, in the research area, it is perceived as fair that men migrate and women engage in agricultural production, thereby both contributing to the well-being of the family (Zuo, 2004).

Women's role is increasingly visible in rural society; they are the key agents there. Women, especially older women, are more attached to agricultural production and natural resource management. For this reason, extension services should consider this. Since men have many opportunities to engage in other economic activities elsewhere, women's role in rural communities becomes crucial. They are the ones that should be targeted and not be forgotten in rural development plans.

Livelihood, migration and land use

In the collective era and in the early stages of the implementation of the HRS, most households had food security problems. Villagers had to borrow food from the collective, relatives or friends to solve their problems. Villagers had no autonomy to arrange their own livelihood and to use their own resources to improve their life at that time. They only worked for the collective and had a small parcel of home garden to cultivate. Households had similar resources for generating their livelihood. Since the HRS, each household makes its living based on its own management, which for many households led to an increase of agricultural production. Encouraged by a large urban-rural income gap (Zhu, 2001), temporary migration increasingly became an attractive option for villagers to add to their farming income. The *hukou* registration system, however, is considered a barrier for rural villagers to live in urban areas for longer periods or permanently (Christiansen, 1990). To some extent, this is confirmed by this study. For example, because of having no *hukou* in the place people migrate to, their medical insurance does not apply there. However, most migrants said they lack the skills needed to earn a living in urban areas and confessed they are not used to life in these new places. They said they miss their hometown and life in the village, where they still have their permanent household registration (*hukou*). They expect to come back to the village for farming some day. As Andersson (2001) has indicated, rural-urban migration is not just an economic connection but also has social and cultural meanings. Most migrants come back yearly for the Chinese Spring Festival, to enjoy a family reunion. Thus, besides the *hukou* registration system, many other factors also influence the villagers' migration pattern. Perhaps the views and feelings of unmarried villagers are different, but we did not include them in our study.

Livelihood strategies are increasingly diversified. In the collective era, migration was controlled and managed by the collective. Since the implementation of the HRS, many policies were issued to promote rural development. The improved economic situation in China gives households the chance to diversify their livelihood strategies and make a living by using its own strengths and resources, and by responding to new opportunities. It shows the mediating agency of households (cf Pennartz and Niehof, 1999) in a context of social change. Social resources remain crucial for household livelihood strategies because the formal support from the government is decreasing. The diversification of livelihood portfolios causes an increase in the social and economic stratification, which is good for development in China. Yet, it should be avoided that the gaps between strata become too big (Ni, 2005; Yu, 2003). In rural China, household stratification is based on the situation that all farming households have land, which is the basis of both their food security and their social security (Ni, 2003). The socio-economic gaps were bigger at the early stages of the HRS's implementation than they are now. Since livelihood choices and options have increased, households have more opportunities to develop their own strategies. This has narrowed the economic gaps, while the occupational differentiation is increasing.

Land use is changing; more land is abandoned or transferred. Households have diversified their land use, influenced by the HRS, migration, and household resources. The land is fragmented because of land allocation at the household level

and the fact that redistribution at the village level has never taken place. Land still provides a form of social security for the farmer, even if the plot is small. In the current situation, villagers may rent out land, but they do not want to give it up completely. Migrants still maintain relations with their rural area of origin, not only for economic purposes but also for socio-cultural reasons (Andersson, 2001). Limited municipal development is good for migrants in Guizhou province, because it is easier for them to live and keep their own culture in small towns than in big cities.

10.4.2 Social change and stratification

The average household size is smaller compared to its size during the collective era and the number of nuclear-family households is increasing. Meanwhile, migration makes household boundaries more flexible. In this situation, the support given by the older generation to their adult children is very important. Kinship is very helpful in a changing society, as Moore (1988) has indicated.

Migration provides households with small landholdings with opportunities to earn cash, leading to diversified livelihood portfolios. These can help farming households to improve life. People are dealt unequal opportunities for development to begin with, but diversity brings them more chances, even if these are not equal. Yet, migration does not give migrants the chance to learn practical agricultural skills, because they work in non-farming sectors. Younger cohorts do not gain agricultural skills through migration. Even if the government is promoting urbanization and land transferral, few households would like to give up their land completely and move to the city. Some migrants already came back to engage in trading, running small businesses in their hometown. Both on-farm and off-farm activities are still part of the livelihood strategy of most villagers, so the government should promote local rural industry and limited municipal development. In this way, it would help rural households to earn money from non-farm activities and take care of agricultural production at the same time. Outside the peak season, villagers are pushed into off-farm and non-farm activities. Useful skill training is necessary for migrants to help them with their work when they return. Women have a lot of experience in marketing and will play an important role in the future urbanization process. In the study area, a trend can be observed that when husband and wife migrate together, they may transfer or abandon their land. This phenomenon, of which the implications are yet unclear, merits more attention.

Zhang and Song (2003) have argued that interprovincial migrants were encouraged by the rural-urban gap and discouraged by geographic distances, but people from the poor villages in western China would like to migrate to coastal areas, even if these are far away. It is necessary to reduce regional disparities. This research mentions that younger people migrate long-distance because their destination town offers a higher income and more opportunities, while older people prefer to do local circular work, which enables them to earn money and look after agricultural production as well. If the government adopts better policies to reduce regional disparities, like promoting rural industrial development, then land abandonment will decrease. Liu (2008b) has found that enhancing educational opportunities can reduce rural-urban migration because people who are rich in

human resources migrate less. However, if agriculture is still so unprofitable, migration will not decrease, but the development of small towns can help to reduce long-term, long-distance migration. This research shows that household heads of non-migrant households have a higher education than others. A reason for this may be that male household heads of the 1990s cohorts have a higher education and migrate less than male household heads of the 2000s cohorts. Male household heads from the 1970s and 1980s cohorts have the lowest education, but they also migrate. Apparently, we may conclude, there is no straightforward relationship between education and migration.

Agriculture is becoming increasingly less important. The yields of the main agricultural crops do not show big differences, because money investments in agriculture have increased on the one hand, but the abandonment of land is increasing on the other. Mallee (1996) has said that migration has both positive and negative impacts on agricultural production in China, unlike Burkina Faso, where neither a positive nor a negative impact of continental migration on agriculture can be observed (Wouterse and Taylor, 2008). However, more attention should be paid to the elderly people, who are still interested in learning agricultural technologies, even though they have a low level of formal education. They have practical experience and their work keeps agricultural production alive and sustainable. At the same time, the new generation views agriculture differently and wants to grow cash crops. They have more modern ideas because of their migration (especially long-term migration) experience. In order to achieve a sustainable agricultural development, the extension agencies should consider the different kinds of knowledge and interests of younger and older cohorts. Female-headed households need labour-saving technologies and small machines. Extension officers should support a number of key people in the village, to help them transfer knowledge and organize self-help groups among the farmers. The Farmer Field School (FFS) educates rather than instructs and is good for farmers who have little, if any, formal schooling.

With regard to gender, the general trend is that men and women are considered more equal than before. However, a wife is still supposed to give up her own preferences when necessary. The implementation of the HRS has provided men and women with different opportunities. Women may migrate for the welfare of the household, but should also be prepared to return anytime to look after their children, parents, and land. When it comes to influencing household land use, women are definitely the most important people, because men give more attention to migration. This makes women the key figures in rural society. They organize themselves in different kinds of informal groups, but formally, their role in the public domain is still not fully accepted. There is no causal linkage between economic development and women's political participation (Guo et al., 2009), and women's participation in community affairs needs to be strongly supported.

All these factors are interrelated; household change influences the household resource base, leading to livelihood changes; livelihood changes bring about social stratification; social stratification affects household livelihood strategies; changes in livelihood strategies change the resources the different households have at their disposal, thereby changing households again. The research reveals the significance for households in the study area of gaining land

use rights upon the implementation of the HRS. While land is considered to be a form of social insurance, because of the migration factor, landholding per capita does not necessarily translate into more household income. In this respect, the situation in the study area is different from that in poverty-stricken areas elsewhere in Guizhou, where landholding per capita and household income are positively related (Xing et al., 2008). The delocalizations of livelihoods in the rural South causes rural livelihoods to become increasingly divorced from farming, implying that the active pro-poor development in the rural South should be reconsidered (Rigg, 2006).

The household livelihood diversification may narrow the income gap between the rural rich and poor (Niehof, 2004). Ellis's observation (2000) that diversification provides better opportunities to those who are already better off is only one side of the coin. In this research, we observed that, at the beginning of the HRS's implementation, the differences in household income were broadened because only a few households could afford higher agricultural inputs, had bigger landholdings, or could start up small businesses. Later on, migration (especially long-term migration) options gave farming households similar opportunities to earn cash. Their income from migration does not differ very much because they have the same (lack of) skills for non-farm work. Nowadays, income from land accounts for less of a households' income, and there is a stagnation or decline of farm output. The changes are obvious these past several years. Although government policies have always played a strong role in rural development in China, different households use the policies in different ways to make a living.

We may conclude that land is still an important resource for rural people. Another conclusion is that men and women are more equal than they were in the past. Social stratification is a dynamic factor in rural development. Households use their own resources to diversify their livelihood strategies and the income gap is narrowing. Fertility rates and family size have declined because of the land allocation policy, the changed value of children, and young women having the power to make their own decisions. Extension activities and policy makers should not forget the older cohorts, who are the main agricultural producers. As long as the policies prevent migrants from settling down in urban areas, they will return to agricultural production when they are old. Women and elderly people are the key actors in rural society. Those working in agricultural extension and other community development interventions need to think about household dynamics and power structures, and they need to pay attention to women. Participatory approaches that treat households and communities as unitary and homogeneous are not likely to be successful (Cleaver, 1999).

10.5 Final notes on methodology

Social change is always difficult to study. Kertzer (1991) has used the life course approach to see how people's reactions to change affect the larger societal forces, which in turn influence the course of social change and individual lives. Broad economic, political, social, and cultural developments affect individual behaviour and are affected by individual and group actions. The ACWF (1991) has discussed

change in the position of Chinese women in terms of education in different life course stages, by using a cohort approach. A cohort is defined as "the aggregate of individuals (within a given population definition) who experienced the same event within the same time interval" (Ryder, 1965:845). Although Lu (2005) did research on conjugal resources and household labour allocation for two cohorts in Taiwan, to date, there was no study that links household change, changes in livelihood (land use) and gender roles, and social stratification by using a cohort approach.

In this research, social change is made visible by using a cohort analysis. The household is the key unit in this research, defined as a "co-residential unit, usually family-based in some way, which takes care of resource management and primary needs of its members" (Rudie, 1995: 228). The effects of the introduction of the Household Responsibility System (HRS) in the research area in 1980, is the key theme in this study. The moment of household formation was used as the event to define the household cohorts. The cohorts distinguished are the following:

- The 1970s cohort: the households formed their own independent unit during 1970-1980 and have experienced both the collective era and the HRS era.
- The 1980s cohort: the households formed their own independent unit during 1980-1990 and experienced the start of the HRS.
- The 1990s cohort: the households formed their own independent unit during 1990-2000 and only experienced the HRS era.
- The 2000s cohort: the households formed their own independent unit from 2000 to the present and only experienced the HRS era.

Each cohort shows its own features at different stages of the life course in a certain period of time and under specific circumstances. However, at the same time, we should be aware that the social change between cohorts happened gradually and that variation within cohorts has to be taken into account as well.

It was difficult to find couples from the younger cohorts because, in these two cohorts, the incidence of long-term migration is high, especially in the 2000s cohort. Since those who stayed at home may not be very representative, we extended the study to a sample of migrated households, to be able to present a comprehensive picture.

The method of collecting life histories was used to understand change among individual women in the societal context. Cohort analysis combines the changes experienced throughout the life course with historical change, by setting the same phases in the life course of different cohorts in the context of different periods in history. In this way, social change can be made visible.

In the livelihood system approach, households produce their household livelihood by using different kinds of resources. Using this approach enables us to understand the interrelationship of household, livelihood, and social stratification. Different households have different resources and adopt different livelihood strategies, which influence land use. Household resources are different for each cohort, which brings about different livelihood strategies for each cohort, leading to different land use and technology needs.

Social change is a continuous phenomenon. Both the quantitative and the qualitative approach are considered appropriate for the study of social change.

This study used a quantitative approach to understand the current situation of farming households of different cohorts, and a qualitative approach to enable the analysis of change. Research about people's motivations was also done by using qualitative methods.

This research shows that this way of conducting research on social change works well, and can be used in future studies about social change in rural households. More studies about rural household changes in China still need to be done by using a cohort analysis. The Household Responsibility System has been very influential in rural society. The government issued another land management policy, the forestland tenure policy of 2008. This is also an important policy that will substantially influence rural households, especially forest-dependent households. Studying the influence of this policy by making use of this type of cohort analysis could be helpful to understand its impact on these households. Because the policy was introduced as recently as 2008, when this research would start immediately it would be possible to monitor the impacts of the implementation of this policy from the beginning.

The research area has a relatively high landholding per capita in Guizhou province. Hence, the results may not be applicable to areas where smaller landholdings prevail. The results may also not be applicable to poverty-stricken villages, where villagers may abandon the land completely, because they cannot make a living off the poor land and cannot meet the increasing need for investment in it. We can see from this research that small landholding households prefer to migrate and work as migrants as long as they can. However, they may have money to rent land after several years of migration. This is why some households come back to work in agriculture, while others are migrating. Since this study shows diverse developments, it is difficult to predict how these developments will work out in the future. Additionally, although there already are many studies on social stratification, rural social stratification in China has just started. This necessitates more research conducted at household level.

Household headship as recorded in the official registration system (*hukoubu*) may not be the same as actual (*de facto*) headship, but researchers rarely note this difference. For this reason, research findings from household surveys may be questionable. Rural household research in China still needs to go into the impacts of the changing context on households and individuals in an in-depth manner. The reason that many outside interventions, such as agricultural extension, do not succeed, is that no attention is paid to the actual dynamics and functioning of households. This is why, in the future, more attention should be given to research on household level.

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Annexes

Annex 1 Questionnaire

I. HOUSEHOLD RESOURCES

1. Human Capital

1.1 Household composition, size and structure

ID CODE	1. Name	2. Relation to household head 1.Husband 2.Wife 3.Father 4.Mother 5.Son 6.Daughter 7.Brother 8.Sister 9.Other	3. Sex 1 = M 2 = F	4. Age	5. Marital status 1 = Mar. 2 = Single 3 = Div. 4 = Wid.	6. Education level (years)	7. Current working status 1=yes 2=No If yes, go to next	8. Working sectors 1 = farming 2 = farming as labour force 3 = private employment 4 =village leader 5 = township officials 6 = county officials 7 = self employment 8= other (specify)	9. Person currently living in the household or not 1=Yes 2=No If yes, go to next	10. No. of months resident in house during the past 12 months 1 = None 2 = Less than 3 months 3 = 3-6 months 4 = More than 6 months
1	HHs head									
2	HHs manager									
3										
4										

Note: Make the decision about who to consider as part of the household based on the following criteria:
(i) They live under this "roof" or within the same compound/homestead/stand at least 6 months out of the past year and
(ii) When they are together they share food from a common source and
(iii) They contribute to or share in a common resource pool

1.2 Labour in agriculture and migration

ID CODE	Name	Working hours per day in the past year?							
		11. Rice		12. Maize		13. Other crops		14. Local circulation	15. Migration
		Busy season	Non-busy season	Busy season	Non-busy season	Busy season	Non-busy season		
1									
2									
3									

Note: Local circulation: within this county, commuting, outside less than three months
Migration: outside the county and longer than 3 months

1.3 Migration

Have any members of this household left the area for over a month in the past year?
Yes=1 No=2

If 'yes': Go to following table

ID CODE	16. Age of migrants	17. Sex of migrants 1 = M 2 = F	18. How many months spend away from the household in the last 12 months 1 = one month 2 = three months 3 = six months 4 = over six months	19. Where did …. go to? 1 = within township 2 = within county 3 = within province 4 = outside province 5 = Others (specify)	20. Why did he go away? 1 = Land pressure 2 = Surplus labour force 3 = Working opportunities 4 = Lack of money 5 = See outside world 6 = Follow others 7 = Other (specify)	21…… Does ____ send home any form of help? Yes=1 No=2	22. If Yes in what form is the help? 1 = Cash for food, clothes 2 = Cash for farming (seed, fertilizer etc.) and livestock 3 = Cash 6 = Other (specify)	23. If he goes back, why? 1 = Lost Job 2 = Due to illness 3 = To take care of old parents 4 = To take care of children 5 = To help on the farm/household 6 = Deliver baby 5 = Others (specify)

1.4 Farming Knowledge, experiences and skills

Which members of your household have knowledge of the following activities on the farm?

Activity	Person(s) with more knowledge (write as many codes as apply)					
	24. Rice	25. Maize	26. Rapeseed	27. Potato	28. Home garden crops	29. Other cash crops
Land preparation						
Raising seedlings						
Application of manure, pesticide						
Transplanting						
Planting						
Watering						
Weeding						
Other daily management						
Harvesting						
Post-harvesting						
Marketing						
Sources of agricultural information						
Others (specify)						

2. Physical and financial capital

2.1 Land size, quality and tenure

	30. paddy field	31. upland land	32. irrigated land	33. forest land	34. grassland
Size					
Farthest distance					

35. How did you acquire this land?
1 = Inherited 2= Access through marriage 3 = Contracted with collective
4 = Rented from others 5 = Other (specify)

36. Does your household rent in/rent out land in past year?
1= Yes 2= No,

If yes, go to next

37. How much total agricultural land has your household rented in?
paddy field:_____mu; upland _____mu

38. How much total agricultural land has your household rented out?
Paddy field:_____mu; upland _____mu

39. Give the main reasons for renting in?
_____

40. Give the main reasons for renting out?
_____ _____

2.2 Farm equipment and household and tangible Assets

41. Does your household own any of the following items? Ask the retail price of the good or the current market value of the good as it is.

Asset	42. Quantity	43. Retail value (*Yuan*)
Tractor		
Cart		
Tractor plough		
Car/mini-bus		
Water pump		
Pig pen		
Cattle pen		
Motor cycle, Bicycle		
Radio,VCD		
Television (white and black)		
Television (colourful)		
Fridge		
Washing machine		
Telephone (landline), mobile telephone		
Commercial buildings (stores, process room, etc)		
Housing		
Others (specify)		

44. How do you evaluate your wealth position in the village?
1= top 2 = above average 3=average 4 = below average 5 = poor

2.3 Livestock

Livestock	45. Number of animals	46. Retail value (*Yuan*)	47. If the animals were sold what was the reason for sale? 1= School fees 2 = Medical expenses 3 = To repay debt 4 = Other (specify)
Pigs			
Buffalo			
Yellow cattle			
Goats			
Chicken			
Ducks			
Goose			
Horses			
Others (specify)			

2.4 Housing Characteristics

48. Type of house
1 = concrete-roof 2 = non-concrete house (specify)
49. Which year did you build the current house?
50. Type of toilet
1 = no toilet 2= outdoor toilet 3= public toilet
4 = indoor toilet (without water) 5= Water closet 6= others

2.5 Bank savings and stores of value

51. Has any member of this household saved money in the last year?
Yes=1 No=2
If 'yes' to above question go to next, if not, go to 53
52. Where was the money saved?
1 = At home 2 = With a bank 3 = Informally (trader, relative/friend, shopkeeper)
53. Does your household get money mainly from?
1= farming 2=trading 3= process 4= Local circulatory work
5=Long distance migration 6=transportation 7=others (specify)

54. In the table below indicate whether you stored any of the mentioned foods in the granary for sale or consumption during this year?

Food item	55. Sale 1 = Yes 2 = No If yes, go to next	56. Quantity (bags, Kgs.)	57. Consumption 1= Yes 2 = No If yes, go to next	58. Quantity (bags, Kgs.)
Rice				
Maize				
Rapeseed				
Beans				
Potatoes				
Other (specify)				

2.6 Cash Credit

59. In the past 12 months, has any member of your household borrowed any money?
1= Yes 2 = No
If yes, go to next, if no, go to 61

ID CODE	60. Source of credit 1= private 2= bank 3= relatives 4= friend 5= others	*61. If no, why not?* 1 = No need 2 = Didn't want debt 3 = Interest or repayment rate too high 4 = Lack of collateral 5 = Lack of guarantor 6= Others	62. Use of credit (use as many codes as apply) 1=buy food 2=buy fertilizer and seeds 3=buy livestock 4=buy farm equipment 5=tuition fee 6=medical fee 7=others	63. Repayment status 1=pay back 2=not pay back 3=pay partly	64. Amount borrowed (*Yuan*)

65. Has your household lent out money to anybody in the last one year?
1=Yes 2=No

If yes, go to next, how much in total is owed by others to your household?
Yuan.....

3. Social Resources

3. 1 Attending groups/organizations

ID CODE	66. Is ….. a member of any group or organisation? 1= Yes 2 = No If yes, go to next	67. What type of group is it? 1 = Villagers Committee 2 = Water/forest management group 3 = Technology study group 4 = Finance credit or savings group 5 = Buffalo caring group 6 = Neighbour group 7 = Female activities group 8 = Others (specify)	68. How actively does…… participate in the group's decision making? 1 = Leader 2 = Very Active 3 = Somewhat Active 4 = Not active	69. When/Since when (Year)

70. Of all the groups to which members of your household belong; which two are the most important to your household?

Group 1 _____
Group 2 _____

71. How many times in the past 12 months did anyone in this household participate in this group's activities, e.g. by attending meetings or doing group work?

Group1_____
Group 2_____

72. How does one become a member of this group?

1=Being elected 2 = Voluntary choice 3 = required to join
4=Other(specify)
Group 1_____ Group 2_____

73. Does the group help your household get access to any of the following services?

Services	Group 1 1= Yes 2 = No	Group 2 1 = Yes 2 = No
Education or training		
Credit or savings		
Agricultural input or technology		
Water supply		
Irrigation		
Labour saving		
Recreation		
Health services		
Others (specify)		

74. Thinking about the members of this group, are most of them of the same…?

Membership characteristics	Group 1 1 = Yes 2 = No	Group 2 1 = Yes 2 = No
1.Neighbourhood		
2.Family or kin group		
3.Village		
4.Gender (1= Male 2=Female)		
5.Age		
6.Occupation		
7.Educational level		

3.2 Kinship network

	75. How many siblings do you have in this village? 1 = 1 2 = 2 3 = 3 4 = 4 5 = above 5 6 = 0	76. How many siblings do you have outside this village? 1 = 1 2 = 2 3 = 3 4 = 4 5 = above 5 6 = 0	77. Where does she/he stay? 1=another village 2= same town center 3=another town center 4=same county center 5=another county center 6=capital of province 7=outside province	78. What is the job she/he has? 1=farmer 2=government officials 3=work for private 4=others (specify)
Husband				
Wife				

3.3 Trust

79. Did you ever need to borrow money/food?
1=Yes 2=No, if yes, go to next

80. Did you meet problems when you borrowed money/food?
1=Yes 2=No , if yes, go to next

Borrow money	81. What problems?	82. If there is problem, why?
From neighbours		
From relatives		

83. Do you think that your neighbour likes to work with you?
1= No 2= Not sure 3=Sure

4. Environment resources

4.1 Water

84. What is the source of water used most often in this household for things like drinking or bathing and washing clothes?
1 = Piped water 2 =Rainwater tank 3 = Flowing river/stream
4 = Cave water 5 =Well 6 = Others (specify)

85. Does the household have to fetch and carry water to the house each day?
1 = Yes, all the time 2 = Mostly 3 = Sometimes 4=No

86. About how far away is the water that has to be fetched?

87. If you have pipe water, how much did you pay for the water every month?

88. How far does the buffalo need to go to the pond?

Who in the household usually fetches water?

ID CODE	89. Person fetching water	90. How many trips per day?	91. How long does each round trip take on average? (include time spent waiting in queue) Minutes

4.2 Road

92. Can the car/tractor reach your house directly? 1=yes 2=no

93. In which year was the recent road built?

4.3 Fuel (Energy source)

94. When did you begin to access to electricity?

Source of energy	Cooking food		95. Lighting		96. Cooking livestock feed	
	Main source	Second source	Main source	Second source	Main source	Second source
Wood						
Charcoal						
Gas from cylinder						
Electricity						
Biogas						
Others (specify)						

4.4 project

97. Are there any projects implemented in your hamlet in the past five years?
1=Yes 2=No

98. Are your household involved in these mentioned projects?
1=Yes 2=No

99. If yes, who is main person to be involved in?
1=husband 2=wife 3=jointly of 1 and 2
4=male children (above 18) 5=female children (18) 6=jointly of 4 and 5
7= jointly of 1 and 4 8= jointly of 2 and 5 9=anyone

4.5. Rural industry

100. How far is the nearest rural industry and what is it?

101. Did you and other household members work for the rural industry (within township) in the past year? 1= Yes 2=No

If yes, go to next

102. Person worked for the rural industry in the past year	103. Income per month in the past year (*Yuan*)	104. Months worked in the past year

4.6 Technology services

105. Did you go to extension office in the past year?
1= Yes 2=No

If yes, go to next

106. What is your purpose to go there?
1= Getting technology service 2=Buying seeds and fertilizer
3=others (specify)

107. Do you know any of the extension workers?
1=yes 2=No

108. Did you get any technology help from extension worker in the past year?
1=yes 2=No

109. Do you need technology service from government?
1=yes 2=No

110. Are you satisfied with the technology service?
1=yes 2=No

111. What is your main channel to get the technology services and information?
1= Extension office 2=Government 2=TV or radio
3=Household migrants 4= relatives 5= neighbours
6=others (specify)

4.7 Market

112. How far is the nearest market?

113. Can you go to the market by public transportation directly?
1=yes 2=No

If no, go to next

114. How do you go there?
1=motorcycle only 2=combined with motorcycle
3=combined with bicycle 4=cart 5=others (specify)

115. Person who went to the market in the past year?	116. times to go in the past year	117. purpose to go

B HOUSEHOLD LIVELIHOOD ACTIVITIES

1.1 Household Livelihood Activities

In the last 12 months (between now and the same month last year), which types of work or activity did the members of your household perform, in order to meet the above named livelihood objectives? Who worked at each activity?

ID C O D E	118. Agriculture 1 = Crop production (for consumptionand sale) 2 = Poultry rearing 3 = Livestock rearing 4 = Other (specify)	119. Employment (migration) 1 = Formal salaried employment 2 = Local agricultural labour 3 = Local non-agricultural labour 4 = Migration for agricultural labour 5 = Migration for non – agricultural labour 6 = Domestic service 7 = Others	120. Trade (buying & selling) 1 = Trading in grain 2 = Trading in livestock 3 = Trading in wild vegetable 4 = Others (specify)	121. Sale of natural products 1 = Wild vegetable sale 2 = Coal sale 3 = Charcoal sale 5 = Fodder or grass sale 6 = Stones (quarry) sale	122. Processing 1 = Rice/ maize process 2 = Feed process 2 = Oil process 3 = Local alcoholic drinks 4 = Tofu process 5 = others (specify)	123. Crafts/ small industry 1= Basket-making 2 = Embroidery or making clothes 3 = House-building 4 = Blacksmithing or metal work 5 = others (specify)	124. Service (small shop, technology service) 1= Repairing shop 2 = Hair-dressing 3 = Traditional healer 4 = Running a restaurant/ store 6 = Transporter 6 = others (specify)

125. How many times did you go out to work?
126. When was your first time to go out to work?
127. How many months did you go out totally?

1.2 Income resources

Income from rents

Items	128. Rents (*Yuan*/kgs)
Renting out land	
Renting houses	
Money-lending	
Renting out agricultural machine	
Others (specify)	

Household income from migrants/migration

Migrants	129. Migration income in the past year (*yuan*)	130. remittances (*yuan*)	131. Purpose of remittance 1= marriage of children 2= education of children 3= agricultural production 4= daily household expenses 5 = health 6= savings 7= building a house 8= others(specify)

1. 3 Land use

132. What are the main crops grown by your household? List all the crops in order of importance in order of income.

1. Rice ( )
2. Maize ( )
2. Rapeseed ( )
3. Potato ( )
4. Sweet potato ( )
5. Bean ( )
6. Bean ( )
7. Chilli ( )
8. Chinese cabbage ( )
9. Peach ( )
10. Mushroom ( )
11. Pear ( )
12. Strawberry ( )
13. Wheat ( )
14. others (Specify)

133. What are the main crops grown by your household? List all the crops in order of size of cultivating areas.

1. Rice ( )
2. Maize ( )
2. Rapeseed ( )
3. Potato ( )
4. Sweet potato ( )
5. Wheat ( )
6. Bean ( )
7. Chilli ( )
8. Chinese cabbage ( )
9. Peach ( )
10. Mushroom ( )
11. Pear ( )
12. Strawberry ( )
13. others (Specify)

Make a list of the first five major crops that the household cultivated during the past 12 months	How much land did you cultivate under this crop? (Mu)	134. How much did you produce? Yes=1 No=1			135. How much of the produce did you consume?			136. Did you sell any product? Yes=1 No=2	137. What was the value of sales (*Yuan*)
		Kg	Bags	baskets	Kg	Bags	Baskets		

Income from forestland and grassland

Land types	138. Income last year (yuan)
Forestland	
Grassland	

139. How many lands were converted into forestland in the past five years?

140. Why did you convert it to forestland?

Abandoned land

Land types	141. Abandoned year	142. Why abandoned?
Abandoned paddy field		
Abandoned upland		

Management practice changes in the past year

Management practice	143. management change 1 = Yes 2 = No If yes, go to next	144. Reason for the changes 1 = Lack of cash 2 = Lack of labour 4 = lack of skills/knowledge 5 = No profits 6 = Other (specify)
Reduced amount of fertiliser		
Reduced amount of manure		
Reduced irrigation frequency		
Reduced no. of weeding times		
Reduced no. of pesticide application times		

C. GENDER ISSUES

1.1 Division of labour in household activities

145. What is the division of labour in your household activities?

Activity	146. Who does it?	147. Who makes decision?
Collecting fuelwood		
Fetching water		
Cleaning the house		
Cooking food		
Preparation feed		
Feeding animal		
Taking care of cattle		
Raising poultry		
Taking care of children		
Taking care of aged person		
Taking care of the sick		
Washing clothes		
Others (specify)		

Code: 1=Adult male 2= Adult female 3=Jointly by adults
4=Male child (below 18) 5=Female child (below 18) 6=Jointly by children (below 18)
7=jointly by 1 and 4 8=jointly by 2 and 5 9=mixed of adults and children

1.2 Division of labour in agricultural production

148. What is the division of labour in your household agricultural production and marketing activities?

Activity	149. Rice	150. Corn	151. Potato	152. Rapeseed	153. Home garden crops	154. Other cash crops	155. Forestland management
Land preparation							
Raising seedlings							
Application of manure, pesticide							
Transplanting							
Planting							
Watering							
Weeding							
Other daily management							
Harvesting							
Post-harvesting							
Processing							
Marketing							
Others (specify)							

Code: 1=Adult male 2= Adult female 3=Jointly by adults
4=Male child (below 18) 5=Female child (below 18) 6=Jointly by children (below 18)
7=jointly by 1 and 4 8=jointly by 2 and 5 9=mixed of adults and children

1.3 Gender in migration and extension service

156. Gender roles in migration and extension services?

Activity	Adult male		Adult female		Female child (below18)		Male child (below 18)	
	age	age	age	Age	age	age	age	Age
Migration (outside province)								
Migration (outside county)								
Seasonal migration								
Local circulation (within county)								
Local circulation (within township)								
Attending technology training (within village)								
Attending technology training (outside village)								
Getting extension information from government and village leader								
Attending extension study group activities								
Others (specify)								

What are the biggest problems did you meet when your husband/wife/children were not around?

Absent	157. Problems in agricultural production	158. General problems
Husband		
Wife		
Children		

What are the biggest benefits did your household (members) get from migrants/migration?

Beneficiaries	benefits?
Husband	
Wife	
Children	

1.4 Gender in land use

159. Who can access and make decisions from the following activities?

Activity	**Who can access?**		**Who makes decision?**	
a. Possess contracted land				
Contracted paddy field quota				
Contracted upland quota				
Contracted forest land				
b. Access to public land				
Forest land				
Wasteland/grassland				
c. Access to land management				
Cultivate rice				
Cultivate maize				
Cultivate rapeseed				
Cultivate potato				
Cultivate home garden				
Cultivate other cash trees				
Cultivate wasteland/grassland				
Others (specify)				

Code: 1=Adult male 2= Adult female 3=Jointly by adults
4=Male child (below 18) 5=Female child (below 18) 6=Jointly by children (below 18)
7=jointly by 1 and 4 8=jointly by 2 and 5 9=mixed of adults and children

Thank you for your cooperation!

Annex 2 Additional questionnaire for migrated households

Date of interview_____ Village_____ Questionnaire number__
Name of interviewer_____ Name of respondent_____
Male_____ Female_____ Age_____
Married year_____ Household formulation year_____
Household type_____
1= male-headed 2= female-headed (based on *hukou* registration)
1= male-headed 2=female-headed (based on actual manager)
Name of spouse_____ Name of household head_____
Household size_____

1. How long has your Household migrated?
   1=within 1 year 2=2-5 years 3= above 5 years

2. Why your Household decided to migrate?
   1=lack of money 2= be exposed to outside world

   3= lack of cultivated land 4= others (specify)

3. What is the most difficulty you feel when you work outside?
   1=can not find a job 2=bad living situation 3=hard work
   4=lower education 5= children's education 6= others (specify)

4. Do you send remittance back to your hometown?
   1= yes 2= no

If yes, go to question 5; if no, go to question 7.

5. Whom do you send your money to?
   1= parents 2= siblings 3= others (specify)

6. What is your main purpose to send remittance?
   1= building a house 2= support parents
   3= support siblings 4= others (specify)

7. Do you plan to go back in the future?
   1= yes 2= no 3= unclear

If yes, go to Question 8; if no, go to Question 10.

8. When do you plan to come back?
   1= within 1 year 2=2-5 years 3= above 5 years

9. What do you plan to do after you stop migration and return your hometown?
   1= do agriculture 2= run business 3= do technical work

10. Who cultivate your land when you migrate?
    1= parents 2= siblings 3= relatives 4= others (specify)

11. What is the impact on your land because of your migration?
    1= good impact 2= bad impact 3= no influence

12. What is the migration income compared with your agriculture income annually?
    1= similar 2=2-5 times 3=5-10 times

13. Why you have more opportunities to migrate outside compared with your parents?
    1= higher education 2= good opportunity
    3= lower profit from agriculture 4= technical skills 5= other (specify)

Annex 3 Guideline for interviews

1. Secondary data collection

- Agricultural technology extension activities in the past five years in the township
- Government projects in the past five years
- Agricultural subsidy policies (taxes-free, rice production subsidy, equipment, biogas, rural industry, community organization etc.)
- Agricultural technology extension policy
- Migration-supporting policies, land policies, women support policies

2. Key informant interview

For township officials

- What activities do you involve in the last five years?
- What changes happen in the township?
- What happened to your work in the past five years?

For extension worker

- What extension activities do you have in the last five years?
- What activities do you have besides technology extension work?
- How do you provide technologies to local farmers?
- What problems did you meet in the process?
- Do you think extension work has changed since increasing migration? If yes, how?
- What suggestions do you have for the extension work?

For aged person and village leader *(male and female)*

- Marriage, household division and formation
- Collective production system (workpoint system, gender, livelihood)
- Land allocation regulations (land quality and quantity) for HRS
- Current livelihood (land use, technology extension) and gender issues (e.g. access to, decision-making)
- Village's heterogeneous status and wealth status
- Migration

3. Case study (including life stories)

- Marriage, household division and formation
- Livelihood (land use, technology extension) in different life stages
- Gender issues (e.g. access to, decision-making) in the household and in different life stages
- Migration and migration impact

Summary

Since the introduction of the Household Responsibility System (HRS) in 1978, Chinese rural households have experienced many changes. The HRS allows farming households to organize their own agricultural production on contracted lands, enabling them to work more efficiently and get more benefits compared to during the collective era. Since the market liberation, the number of enterprises that can absorb the surplus labour has increased, and many men migrate to earn cash. This entails changes in gender roles in the rural areas, leading to feminization of agriculture and women becoming *de facto* household heads. Household landholding, land use and livelihoods are changing and social stratification is becoming more pronounced. As a consequence, farming households' needs for agricultural extension are increasingly diverse and can no longer be accommodated by traditional top-down extension. The changes since the implementation of the HRS provide the opportunity to study the interrelationships of household, gender, livelihood and social change in rural China.

This research aimed to identify the changes in the farming household, gender roles, and rural livelihoods since the implementation of the Household Responsibility System (HRS) in 1978, to understand the heterogeneous household land use practices in the context of diversified livelihood portfolios, and to provide policy recommendations for agricultural technology extension. This research aimed to answer the following research questions:

1. What are the changes in farming households after the HRS, in terms of household structure, composition, size, sources of income and livelihood (including land use), and gender roles?
2. What are the changes in the household, gender roles, livelihood, and land use strategies and their impacts on rural society?
3. How can agricultural extension policies better accommodate the increasing heterogeneity of farming households, particularly regarding household land use?

This research was conducted in the municipality of Kaizuo, located in the southern part of the province of Guizhou, China. The municipality has 37 villages. The field work was done from August 2007 to October 2008. The researcher could also use earlier working experience in the same area. The study used a life course approach and the livelihood framework. The main research methods were cohort analysis, key informant interviews, household survey, focus group discussions (FGDs), case study and participant observation. Secondary data collection was used to describe the research area. The major findings of this research are summarized below.

Before 1978, many rural households had food shortage problems. They only worked on the collective land and had no decision-making power about land use. Food distribution was organized according to labour contribution (work points) to the collective production. About half of the households had to borrow food from the collective. The households were rather similar in terms of physical, financial, social and environmental resources. People's education level was low

and most marriages were arranged. The houses were small and poorly built. People helped each other in many activities, e.g. house construction, in return for food. There were few products in the market and there was only one cooperative shop in the municipality that sold daily necessities. Coupons were required if you wanted to buy goods there, but these were allocated to each person according to a certain ratio and their number was very limited. There were no tap water and there were only dirt roads. Most households used firewood for fuel and did not have electricity. The main income came from agricultural production and few skilled villagers, all men, did sideline activities for the collective. Skilled persons were entitled to more food. Agricultural extension was top-down, through village leaders and extension workers. Men and women did not get equal work points, since men were involved in activities that earned more points, such as ploughing and skilled work.

Since the implementation of the HRS, the household size has become smaller and the younger people are better educated. Young couples started to go out to earn cash, leaving their children with the grandparents. Income sources have become more diversified. Migration is very common for the younger people and off-farm circulation is common among middle-aged persons. Only aged persons now depend on land only. Villagers run small shops and a small mine factory, work in the transportation business or trade, sell wild vegetables and medicinal herbs. Most of the money made is not from agriculture. More money comes from animal husbandry, migration and off-farm work. People have extra food to sell because of higher yields from the land and fewer mouths at home. Traders come to buy non-timber forest products, resources that are valuable for women, aged persons, and children. Land is rented to others to cultivate because migration causes labour shortage. More cash crops are cultivated.

Women and men are now more equal ideologically. Younger wives are active in agricultural production and have to do many activities in the field themselves or get help from the parents-in-law. Women prefer to cultivate more diversified crops. Men are more interested in cultivating staple food or cash crops and they prefer to get money from non-agricultural sources. It is common that who does the job, makes the decisions relating to it. The home garden is the women's domain. Aged couples usually work together, according to a rigid division of labour that is not found among young couples anymore. Newly married couples spend more time on child care and less on agriculture. The daughter-in-law is now more powerful than the mother-in-law and can make her own decisions, even if the older woman works harder.

In economic terms, most households are medium-level households. Households that rely only on their land and agriculture are not rich. For rich households the land is not so important anymore, although they hold on to it. For such households agriculture production is a sideline activity. Most medium-level households diversify land use and cultivate more cash crops. Poorest households are not good at land management and only cultivate a limited number of crops. Only few households that have little land want to give up the land to earn money by migration. Most people, however, want to come back to farming some day, when they are too old for migration. The households of late 1980s and 1990s cohorts have the most difficult time because they have to pay for the children's higher education. The situation is easier for the households of the 2000s cohort,

whose children are younger, and who prefer to work outside to earn cash for the children's upbringing and future. Some households do not migrate and are engaged in intensive cultivation, trading, or transportation. For them, cash crops are important. The households of the 1970s and early 1980s cohorts are usually involved in circulation. They can use the money they earn from this, and what their children send them, for inputs in agricultural production. They can employ labourers to work for them in the busy season and are eager to increase their knowledge about land management. They prefer to cultivate more diversified food for own consumption. But they have a heavy burden, taking care of grandchildren and their children's land.

Younger cohorts prefer to migrate or have a business of their own, and do not pay much attention to agriculture. They give the land to their parents to manage or rent it out to others. Older cohorts stick to agriculture and animal husbandry and only do circulation. They rent land to cultivate, even though it is not very profitable. They are not accepted as workers by factories, so they have to stay at home to work in agriculture. Some mentioned that they would like to work in the factory to earn more money, but most still prefer to work in the field. They use agricultural products to feed their animals and earn cash from selling animals.

Migration causes serious labour shortage in agricultural production. Nowadays, help in return for food is decreasing and money-rewarded employment is on the increase. It is now difficult for the village to organize community activities. Nobody wants to be a village leader, because of the time it takes. At the same time, the mutual help between neighbours, relatives and friends plays an important role in the migration process. The women left behind make decisions in many fields. The number of *de facto* female-headed households is increasing. Migrants bring new ideas to rural society, thereby opening it up. Cases of land being abandoned occur more frequently than in former times. Villagers now enjoy better living conditions and have more leisure time. Compared to the older generation, the younger people have more time to relax. Aged persons still work hard, because they have to look after grandchildren left with them, in addition to working on the farm. Differences in income between farming households have not become much larger in the past twenty years, but livelihood strategies are more diverse and social and occupational stratification is increasing.

The channels for the transfer of new agricultural technologies are mainly relatives, friends and neighbours. Only a few people get information from the extension workers. The shop keeper is an important figure in providing the villagers with information on agricultural technologies. The older couples are the main agricultural producers, and they have a lot of experience. Younger couples put more effort into migration and their agricultural skills are limited. However, they easily adopt new technologies. The government's extension service cannot very well meet the diversified need for agricultural technology. Labour shortages and feminization of agriculture caused by migration create a need for labour-saving technologies and appropriate technologies for women. Extension activities should pay more attention to the older cohorts who are the main agricultural producers.

Samenvatting

Sinds de invoering in 1978 van het systeem waarbij huishoudens toe hun eigen agrarische productie konden organiseren op gecontracteerd land en de afschaffing van de commune, hebben rurale Chinese huishoudens veranderingen ondergaan. Het nieuwe systeem, in het Engels aangeduid als *Household Responsibility System* (HRS), stelt huishoudens in staat stelt om efficiënter te werken en meer voordeel te behalen en dan mogelijk was voor 1978. Vanwege liberalisering van de markt is er een toenemend aantal kleine ondernemingen die de overtollige arbeid kunnen opnemen en veel mensen, vooral mannen, migreren om geld te verdienen. Dit leidt tot veranderingen in de gender verhoudingen in de rurale gebieden, tot uiting komend in feminisering van de landbouw en een toename van vrouwen die *de facto* huishoudhoofd zijn. Landbezit, landgebruik en levensonderhoud van huishoudens veranderen and sociale stratificatie neemt toe. De traditionele, top-down georganiseerde landbouwvoorlichting kan niet aan de nieuwe en diverse behoeften aan informatie en nieuwe agrarische technologieën van boerenhuishoudens voldoen. De invoering van HRS, biedt de gelegenheid tot het bestuderen van sociale verandering in ruraal China aan de hand van de veranderende relaties tussen huishouden, gender, landgebruik en levensonderhoud.

Dit onderzoek heeft als doel om veranderingen in plattelandshuishoudens, gender verhoudingen en levensonderhoud sinds de invoering van HRS in kaart te brengen en inzicht te krijgen in de heterogene praktijken van landgebruik en de rol van landbouw voorlichting in de context van toenemende diversificering van bronnen van levensonderhoud. De volgende onderzoeksvragen stonden centraal:

1. Wat zijn de veranderingen in plattelandshuishoudens sinds de invoering van HRS voor wat betreft huishoudstructuur, -samenstelling, -grootte, bronnen van inkomsten en levensonderhoud (inclusief landgebruik) en gender verhoudingen?
2. Wat is de invloed van deze veranderingen en de strategieën die huishoudens toepassen om in hun levensonderhoud te voorzien op de rurale samenleving?
3. Hoe kan de landbouw voorlichting beter inspelen op de toenemende heterogeniteit in plattelandshuishoudens, vooral voor wat betreft hun landgebruik en de veranderende taakverdeling in de landbouw?

Het onderzoek werd uitgevoerd in de gemeente Kaizuo, ligt in het zuidelijke deel van de provincie Guizhou, in China. Het veldwerk werd hoofdzakelijk tussen augustus 2007 en oktober 2008 uitgevoerd. De onderzoekster kon ook gebruik maken van haar eerdere werkervaring in hetzelfde gebied. Het onderzoek maakte gebruik van een levensloopbenadering, cohorte analyse en het *livelihood* kader.

Gebruikte onderzoeksmethoden waren interviews met sleutelinformanten, huishoudsurvey, focus groep discussies, case studies en participerende observatie. Tevens werden s secundaire gegevens verzameld over het onderzoeksgebied. De voornaamste bevindingen van het onderzoek luiden als volgt.

Tijdens de collectieve periode hadden veel plattelandshuishoudens te kampen met voedseltekorten. Ze werkten op collectief land en hadden geen zeggenschap over landgebruik. Ze kregen voedsel op basis van hun bijdrage aan de collectieve productie. Ongeveer de helft van de huishoudens moest voedsel lenen van de commune omdat ze te kort kwamen. Er was nauwelijks verschil in de toegang van huishoudens tot fysieke, financiële, sociale en natuurlijke hulpbronnen. Het opleidingsniveau van de mensen was laag en de meeste huwelijken waren gearrangeerd. De huizen waren klein en hadden daken van gras. Er was veel onderlinge hulp, bijvoorbeeld bij de bouw van huizen, en hiervoor werd alleen met voedsel betaald. De gemeente Kaizuo telde één coöperatieve winkel, met een beperkt assortiment. Wanneer men producten wilde kopen bij de coöperatieve winkel had men bonnen nodig, welke werden verstrekt naar rato van het aantal huishoudleden. Er was geen kraanwater en geen verharde weg. De meeste huishoudens gebruikten brandhout als brandstof en men had geen elektriciteit. Agrarische productie was de voornaamste bron van inkomsten. Slechts een paar (mannelijke) dorpbewoners met bepaalde vaardigheden kregen andersoortige werkzaamheden toegewezen door het collectief en verdienden daarmee extra werkpunten, wat ze recht gaf op meer voedsel. Verspreiding van agrarische technologieën gebeurde op een top-down wijze; men pasten de technologieën toe die de dorpsleiders leerden van voorlichters. De gender verhoudingen werden bepaald door het werk dat mannen en vrouwen deden, en mannen konden met hun werk meer werkpunten verdienen dan vrouwen.

Sinds de invoering van HRS is de huishoudgrootte afgenomen en krijgen jonge mensen een betere opleiding. Jonge stellen verlaten in toenemende mate het gebied om elders geld te verdienen en laten kinderen achter bij de grootouders. Bronnen van inkomsten zijn meer divers geworden. Migratie is gemeengoed onder jonge mensen en circulaire arbeid voor mensen van middelbare leeftijd. Alleen de ouderen zijn helemaal van hun land afhankelijk. Sommige dorpelingen hebben kleine winkels. Een aantal bezit een transportbedrijf, werkt in de handel of in de mijnen. Sommigen verkopen wilde groenten en medicinale kruiden Agrarische productie is niet langer de voornaamste bron van inkomsten. Geld komt uit de veehouderij, migratie en andere bronnen. Mensen hebben voedsel over om te verkopen vanwege goede oogsten en het feit dat er thuis minder monden te voeden zijn. Meer vee kan worden gevoederd en inkomsten komen in toenemende mate uit de veeteelt. Er komen handelaars naar het gebied om producten uit de bossen te kopen en dit vormt een bron van inkomsten voor vrouwen, bejaarden en kinderen. Land wordt aan anderen verhuurd om te bebouwen, vanwege het arbeidstekort als gevolg van migratie. Er worden meer gewassen voor de markt verbouwd.

Er is meer gelijkheid tussen mannen en vrouwen. Jonge getrouwde vrouwen hebben een grotere rol gekregen in de agrarische productie. Zij nemen een groot deel van het werk op zich, soms met hulp van hun schoonouders. Vrouwen prefereren meestal een diversiteit van gewassen, terwijl mannen zich richten op de voornaamste voedselgewassen of commerciële gewassen maar de voorkeur geven aan werk buiten de landbouw. Doorgaans is degene die bepaalde taken uitvoert ook degene die de beslissingen er over neemt. De moestuinen zijn een vrouwenaangelegenheid. Oudere stellen werken meestal samen met een duidelijke taakverdeling, anders dan bij de jongere stellen. Pasgetrouwden nemen meer tijd om hun kinderen te verzorgen en minder voor landbouw. Jonge getrouwde vrouwen bezitten meer macht dan hun schoonmoeders en kunnen meer beslissingen nemen, zelfs al werken de oudere vrouwen harder op het land.

De meeste families typeren zichzelf als 'middenklasse' wat rijkdom betreft. De huishoudens die volledig afhankelijk zijn van hun land zijn niet rijk. Rijke huishoudens besteden minder aandacht aan hun landgebruik maar houden er wel aan vast. Deze huishoudens beschouwen de landbouw als een nevenactiviteit. De middenklasse huishoudens diversifiëren hun landgebruik en verbouwen meer gewassen voor de markt. De armste huishoudens verbouwen maar een beperkt aantal gewassen. Alleen de huishoudens met heel weinig land zijn bereid om hun land geheel op te geven als inkomstenbron en vertrouwen op migratie voor zolang zij daar geld mee kunnen verdienen. Maar niemand wil voorgoed migreren. Zelfs de gemigreerde huishoudens geven aan in de toekomst terug te willen komen voor agrarische productie.

Huishoudens uit de 1980 en 1990 cohorten dragen de zwaarste last omdat zij de opleidingskosten voor hun kinderen moeten betalen. Mensen uit het 2000 cohort hebben het minder zwaar. Zij geven de voorkeur aan migratie om zo geld voor het levensonderhoud van hun kinderen te verdienen. Degenen die de regio niet verlaten hebben doorgaans diverse inkomensgenererende activiteiten, zoals transport- en andere kleine bedrijven. Agrarische productie is niet hun voornaamste activiteit en ze geven er de voorkeur aan op andere wijze geld te verdienen. Huishoudens uit de 1970 en 1980 cohorten vinden dat het leven is verbeterd. Ze kunnen meer investeren in de landbouw omdat hun gemigreerde kinderen geld sturen en ze zelf extra geld verdienen met circulaire arbeid. Ze kunnen mensen in dienst nemen om te helpen in het drukke seizoen en ze zijn erop gebrand om agrarische kennis te verwerven. Ze geven er de voorkeur aan om diverse gewassen te verbouwen voor hun eigen consumptie. Evengoed dragen zij de zwaarste last, vanwege de zorg voor hun kleinkinderen en voor het land van hun kinderen.

De jongere cohorten prefereren migratie of eigen bedrijven als inkomstenbron en besteden niet veel aandacht aan landbouw. Zij geven hun land aan hun ouders in beheer of verhuren het aan anderen. De oudere cohorten houden vast aan de landbouw, zelfs als dit weinig winstgevend is. Fabrieken nemen hen niet in dienst dus ze moeten wel thuis blijven en op de boerderij werken. Sommigen van hen zeggen dat ze wel in een fabriek zouden willen

werken om meer geld te verdienen, maar de meesten geven de voorkeur aan het werk op het land. Zij gebruiken de agrarische productie voor het voederen van dieren en vergaren vervolgens inkomen met de verkoop van deze dieren.

Migratie veroorzaakt serieuze arbeidstekorten in de agrarische productie. Tegelijkertijd valt de eenheid van de plattelandssamenleving uiteen en onbetaalde wederzijdse hulp neemt af, terwijl betaald werk toeneemt. Het is moeilijk voor een dorp om gemeenschapsactiviteiten te organiseren. Niemand wil dorpsleider zijn, want dat kost veel tijd. Wederzijdse hulp tussen dorpsgenoten, familieleden en vrienden speelt echter een cruciale rol in het migratieproces. Vrouwen worden thuis achtergelaten en nemen beslissingen over veel zaken. Er ontstaan meer huishoudens met een vrouwelijk huishoudhoofd. De rurale samenleving is opener geworden sinds terugkerende migranten nieuwe ideeën inbrengen. Dorpelingen hebben betere leefcondities en meer vrije tijd. Jongere stellen hebben meer tijd voor ontspanning dan ouderen, die hard werken omdat ze voor hun achtergelaten kleinkinderen zorgen en ook verantwoordelijk zijn voor de agrarische productie. De inkomensverschillen onder boerenhuishoudens zijn niet zo groot als twintig jaar geleden omdat er meer diverse inkomensbronnen kunnen worden aangeboord, maar de arbeidsstratificatie neemt toe.

Familieleden, vrienden en buren zijn de belangrijkste informatiekanalen voor kennis over agrarische technologieën. De winkeleigenaar is ook een belangrijke bron van technologische informatie. Slechts een beperkt aantal mensen verkrijgt hun informatie van overheidsvoorlichters. Boerenhuishoudens hebben zeer verschillende bronnen voor en behoefte aan technologische informatie. Het zijn vooral de ouderen die in de agrarische productie werken en zij hebben veel praktische ervaring. Jongere stellen zijn gericht op migratie en hun agrarische vaardigheden zijn beperkt, maar ze staan wel open voor vernieuwing. Als gevolg van door migratie veroorzaakte arbeidstekorten en agrarische feminisering is er behoefte aan arbeidsbesparende technologieën en technologieën die voor vrouwen geschikt zijn. De overheidsvoorlichting kan niet voldoen aan deze verschillende kennisbehoeften.

De conclusie is dat land nog steeds een basis is voor het levensonderhoud van de rurale bevolking en dat mannen en vrouwen als meer gelijk worden beschouwd dan in het verleden. Diversificatie van inkomensgenererende activiteiten heeft geleid tot verkleining van inkomensverschillen en heeft een positieve invloed op de ontwikkeling van het platteland. Fertiliteit en gezinsgrootte nemen af niet alleen vanwege het overheidsbeleid maar ook omdat jongere mensen meer bevoegdheid hebben om hun eigen beslissingen te nemen. Overheidsbeleid moeten meer rekening houden met de ouderen in de dorpen, ook omdat de meeste migranten denken terug te keren naar het dorp en de agrarische productie als ze ouder zijn. Vrouwen en ouderen zijn nu al de belangrijkste actoren in de rurale samenleving. Agrarische en andere ontwikkelingsinterventies moeten rekening houden met de dynamiek van huishoudens, machtsstructuren en de belangrijke rol van vrouwen in de plattelandssamenleving.

Curriculum Vitae

Juanwen Yuan was born on 21th February, 1967 in Xishui, China. She got her bachelor's degree in Southwest Agricultural University, Chongqing. She completed Master in Forestry (MF) in University of the Philippines, Los Baños in January 2002. She also finished her MSc in management of agro-ecological knowledge and social change (MAKS) in Wageningen University in June 2007.

She began to work in Guizhou Academy of Agricultural Sciences in July, 1986. Her major work is conducting research on the strawberry cultivation and was involved in the project about conservation of local fruit varieties. From 1998, she began to work on community-based natural resource management project supported by International Development Research Center (IDRC). The recent ten years, she has been involved in research on community-based natural resource management, gender and rural development. The projects she was responsible for or involved in are Community-based natural resource management in Guizhou Province (phase II), Promotion of sustainable rural development by scaling up CBNRM in Guizhou province, Gender training and rural development in agriculture and forestry sectors in Changshun county, Rural women and Villagers Autonomous Governance Law in Guizhou Province.

From 2002 to 2005, she was project coordinator of Women's Capacity Building and Rural Development in China in Guizhou province, implemented by Winrock International Agricultural Development Institute. She transferred to work in School of Resource and Environmental Management in Guizhou College of Finance and Economy from May 2005. She is now involved in education and research in the school. In 2005, she got the scholarship from IDRC for PhD study in Wageningen. Her research in about the household change and land use after the Household Responsibility System.

Training and Supervision Plan

Name of the course	Department/ Institute	Year	ECTS (=28 hrs)
I. General part			
Quantitative Research method	MG3S	2005	2.5
Information literacy	WGS	2005	0.6
Scientific Writing	WGS	2006	1
Scientific Publishing Workshop	WGS	2008	0.3
Techniques for writing and presenting a scientific paper	WGS, MG3S, CERES	2006	1.2
Writing Grant Proposals	WGS	2009	1
Research workshop methodology	MG3S	2005	2
Subtotal part I (min. 3-4 ECTS**)**			**8.6**
II. Mansholt-specific part			
Mansholt Introduction course	MG3S	2005	1
Mansholt PhD Day	MG3S	2009	1
Mansholt peer review poster presentation	MG3S	2009	1
Presentation for International Conference on Sustainable Forest Management and Poverty Alleviation: Roles of Traditional Forest-related Knowledge	Kunming, China	2007	1
Presentation for The first International Conference on Forest Related Traditional Knowledge and Culture in Asia	Seoul, South Korea	2008	1
Presentation for The 16th World Congress, The International Union of Anthropological and Ethnological Sciences	Kunming, China	2009	1
Subtotal part II (min.4 ECTS)			**6**
III. Discipline-specific part			
Theoretical issues relating to the concepts of household and gender	SCH tutorial	2005	3
Rural gender studies	SCH 50306	2005	6
Gender in land and water development	IWE 50806	2006	6
Complexity in and between Social and Ecosystems	CERES	2007	3
Thesis proposal writing	SCH	2006	4
Subtotal part III (min. 15-18 ECTS)			**22**
TOTAL (min. 30 ECTS)			**36.6**