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An Analysis of the Price Setting Mechanisms in the Palm Oil Industry in Ghana



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ABSTRACT

Palm oil is one of the major staple commodities produced in the tropical rain forest region of West Africa. The extensive development of oil palm industries in many countries in the tropics of which Ghana is no exception has been motivated by its extremely high oil yield per unit area (Basiron 2007) and the current increase in palm oil consumption. This is partly driven by biofuel demand and the food sector. Various governments in Ghana therefore made several efforts to revitalize the industry after its collapse. Among which include the introduction of commercial plantation and the Presidential Special Initiative (PSI) for the development of oil palm industry introduced by the president of Ghana in October 2002 (Asamoah, 1998). This thesis gives an analysis of the mechanisms involved in having access to palm fruits for processing of palm oil and how prices of palm oil are set or determined. Discussion is also made regarding the institutions involved and the role they play. The main goal of the study is to provide insight into how processing units/groups in the study area have access to palm fruits for processing of palm oil and the mechanisms involved in setting or determining price. In order to reach this goal a field research was conducted at the study area. First a theoretical framework is provided indicating how the study was conducted and analyzed with literature review of some relevant concepts. Subsequently, the thesis analyzed data gathered from various interviews conducted and observations on field to identify the channels followed in accessing palm fruits, marketing system that exist, how these processing units relate to each other as a group and to certain types of buyers in setting palm oil price in the study area. Evidence is also sort on the role of institutions in promoting efficient market. The findings demonstrate three main sources used in getting access to regular supply of palm fruits for processing of palm oil: use of own or family plantation palm fruits, buying from farmers and the use of intermediaries (fruit vendors). However the use of fruit vendors was identified to be predominantly used. Additionally, this thesis indicates the importance of institutional arrangement like contracting in aid of access to productive resources. Furthermore, an indication of how palm oil price is derived is analyzed and presented in this thesis. Based on results presented it can be said that the price of palm oil is seasonally driven since it is drawn from the price of palm fruits which depicts a seasonal nature of production.

Key words: Processor, Fruit Vendor, Palm Oil Trader/Buyer, Access, Contractual Arrangement

CHAPTER ONE: INTRODUCTION

This chapter provides the background and sets the purpose of the study. It describes the study problem and the objectives of the research. It also presents the benefits expected to accrue from it. The organization or outline of the thesis report is also explained.

1.1 Background

People's ability to generate, increase their livelihood or increase their asset depends on their access to productive resources and their ability to control and use resources effectively (Berry, 1989). The management of natural and agricultural resources to sustain the livelihoods of households or communities concern is necessary and differs from one geographic location to the other. For instance, various initiatives are adopted by governments and non-governmental organizations as well as civil society organizations anticipated to create livelihood opportunities for producers and their communities. Palm oil which has become one of the major staple commodities produced in the tropical rain forest region of West Africa has assumed recognition in this direction.

Palm oil is the second largest oils and fats products after soybean oil, accounting 24% of the world's oils and fat production in 2005 (Basiron, 2007). The extensive development of oil palm industries in many countries in the tropics of which Ghana is no exception has been motivated by its extremely high oil yield per unit area (Basiron 2007) and the current increase in palm oil consumption. This is partly driven by biofuel demand and the food sector by consumer health awareness as a result of its trans fat free. Various governments in Ghana have made several efforts to revitalize the industry after its collapse. These include the introduction of commercial plantation (Asamoah, 1998, Addo, 2000) and the Presidential Special Initiative (PSI) for the development of the oil palm industry introduced by the president of Ghana in October 2002 (Asamoah, 1998). These initiatives opened a wide opportunity for viable livelihood creation for local communities and rural entrepreneurs in this subsector. The development of these initiatives thus anticipated to reduce poverty in the long-run.

Individual firms both within and between nations compete for access to the highest quality and cheapest raw materials in order to lower their own cost of production. Dominant classes however are interested in receiving the highest possible prices for raw materials. Raw materials prices to some extent determined the rate of profit and of capital accumulation. The question therefore is how resources owners can be empowered to become full participants of the markets. This is because it is assumed that the correction of distortions and weaknesses in prices and markets that provide wrong signals to producers and consumers to degrade agricultural and biodiversity resources, will encourage them to conserve resources.

Though there has been an extensive development of the palm oil industry in Ghana its benefit is scarce and limited. This could partly be attributed to price setting mechanisms associated with poorly organized market practices and market centers as well as the technicalities surrounding access and use of palm fruits. The objective of this research study is to determine and analyze the mechanisms involved in accessing palm fruits for processing palm oil and the criteria used in price setting. Mention is therefore made of the institutional mechanisms involved in having access to palm fruits and palm oil. The marketing system that exists in the palm oil industry is also given attention. Focus of the study is on group processors in four selected communities (Asamankese, Adeiso, Osenase and Ekoso) of West Akim district as well as immediate buyers of these palm oils.

The notion is that processing of palm oil in the study area is mostly done individually by women who identify themselves as a group due to their common processing geographic location. Processors relation with immediate buyers or traders of palm oil and oil palm farmers or fruit vendors with regards to pricing of palm fruits and palm oil may have an influence in their access to regular supply of palm fruits and market of palm oil. According to Ayoo, 2008, creating markets through enhancing prices for producers have the advantage of ensuring that biological resources are allocated efficiently and put to their best use (C. Ayoo; 2008, 19, 550-564). This implies that enhancing price of palm oil will help ensure the best use of palm fruits.

The knowledge generated from this research study is anticipated to contribute to the development of appropriate mechanisms for enhancing the benefits derived from palm oil processing. It will also better aid government as well as development agencies to conceptualize the happening of the palm oil industry with regards to access to palm fruits and mechanisms in setting price. This will further enhance the promotion better policies and institutions frameworks necessary to ensure a profitable and viable palm oil industry. The field study was conducted from October to December 2010. This period is referred to as the lean season of palm fruits production of which it is quite difficult to have access to fruits as yield is less creating scarcity and competition over palm fruits. However during the peak season (February-April), fruits are in abundance. During this period the quantity process depends on your strength or capability and how regular you get market for processed oil. Different informal contractual arrangements are therefore made in getting access to regular supply of palm fruits and palm oil.

1.2 Problem Statement

Palm oil is the second largest oils and fats products after soybean oil, accounting for 24% of the world's oils and fat production in 2005 (Basiron, 2007). The extensive development of oil palm industries in many countries in the tropics has been motivated by its extremely high oil yield per unit area (Basiron 2007) and the current increase in palm oil consumption. Various governments in Ghana have made several efforts for the development of the oil palm

industry. These initiatives opened a wide opportunity for viable livelihood creation for local communities and rural entrepreneurs in this subsector.

Despite initiatives by government and non-governmental organisations to revitalise this sector, the benefit for improving the livelihood of communities concern are limited. This could partly be attributed to the complexities associated with access and timely use of palm fruits as well as the difficulties associated with price setting and market. It is therefore difficult to tell the mechanisms involved in having access to palm fruits for processing, the kind of market that exist in that industry and how palm oil price is determined.

In order to enhance the benefits derived from palm oil processing by communities concern, there is a need for understanding the means of having access to palm fruits and palm oil and the mechanisms involved in price setting. A systematic exploration of issues relating to the kind of market that exist, the mechanisms involved in accessing palm fruits and palm oil and the criteria followed in setting price become imperative. In this perspective, the purpose of the study is to determine the mechanisms involved in accessing palm fruits and palm oil and analyze the price setting mechanism of palm oil since prices play a very important role in determining the benefits derived from the sale of farm produce.

1.3 Objective of the Study

The research is to identify and analyze the mechanisms involved in accessing palm fruits for processing of palm oil and prices setting mechanisms. The main focus is to examine how group processors in the study area access palm fruits, the channels/procedures followed in accessing these resources and mechanisms used in setting palm oil price. Attention is also paid on identifying how these processing units relate to each other as a group and to certain types of buyers in their chain of business. Additionally, the role of institutions in promoting efficient market is analyzed. This is anticipated to help bring to light the mean through which processors have access to palm fruits and palm oil, and the mechanisms involved in setting palm oil price.

1.4 Research Questions

1.4.1 Main Research Questions;

What mechanisms are followed in having accessing to palm fruits and palm oil?

How are prices determined and what institutional mechanisms are involved in the palm oil industry.

1.4.2 Specific Questions;

How do processors of palm oil access palm fruits for processing?

What procedures or institutional mechanisms are followed by palm oil traders in accessing palm oil?

What criteria are used in determining palm oil price?

How do processors relate to each other and to certain types of buyers?

How do processors come to deal with specific customers and why?

Which institutions exist in the palm oil industry and what role do they play?

1.5 Thesis Outline

This thesis is organized into six chapters. Literature review of theories and concepts that aided the study and analysis of this thesis form the basis for Chapter Two. Specific concepts reviewed include resource access, markets, pricing mechanisms, institutional mechanisms, market queen-mothers and contracting. Chapter Three discusses the methodologies of the study which consist of research design or conceptual framework, definition of boundary, demographic information, research units, sampling and sampling methods as well as methods of data collection and analysis. Chapter Four presents the results of the study while section five is about data analysis and discussion. The final chapter which is Chapter Six presents conclusions and recommendation.

CHAPTER TWO: LITERATURE REVIEW

This section gives a comprehensive literature review of existing knowledge on key concepts and theories related to the study subject. It starts with resource access, followed by markets, pricing mechanisms, institutional mechanisms and contracting. These concepts are applied in the context of the study to investigate their applicability and relevance.

2.1 Resource Access

The management of agricultural production to sustain the livelihoods of households or communities concern is necessary and differs from one geographic location to the other. African farmers have had to cope with an increasingly uncertain environment. Not only the weather, but also relative prices as well as access to productive resources have been fluctuating widely and unpredictably. Farmers and traders have as a result developed various coping strategies to enhance their ability to increase their assets and generate a livelihood. This to a large extent depends on their access to productive resources and their ability to control and use resources effectively (Berry, 1989).

Both within and between nations, individuals firm compete for access to the highest quality and cheapest raw materials in order to lower their own cost of production. Disruption of access to raw materials destabilizes economies, making nations to act strategically to ensure continuous flow of raw materials. Dominant classes however are interested in receiving the highest possible prices for raw materials. Raw materials prices determined the rate of profit and of capital accumulation. Under colonial rule, specific mechanisms of access changed with changing economic and political circumstances, but the general principle that access depended on social identity as well as on purchasing power persisted till today. This implies that control over productive resources depends on one's ability to dominate or influence others or be claimed by an importance class (Berry, 1989).

There are three methods by which enterprises can access production resources, namely government arrangements, market transactions, and social networks/capital. Market transactions are the most important method of accessing resources for enterprises in China today, followed by social networks and then government arrangements (Cai, 2006). However farmers or traders of food crops in developing countries of which Ghana is not of exception have had to rely on several ways of having access to productive resources. Social network and market transaction are the dominant method of access. Social capital or social networks which generally facilitate the exchange of resources within a social context can be viewed largely to include features like social ties, trusting relations, and value systems. In an attempt to analyze how social capital or social network facilitate the combination and exchange of resources, Nahapiet and Ghosh (1996) cited in Tsai and Ghoshal (1998) recognized three dimensions of social capital; structural, relational, and cognitive. The dimension of social capital actually captured or observed provide a strong evidence of the structural and relational

dimensions. The structural dimension of social capital refers to social interaction of which the position of an actor's connections in a social network provides certain advantages. For instance, processors within the study area use their personal contacts to obtain information, or to have access to palm fruits. Again, farmers turn to sell or go into contract with processors they are familiar with just like the processors who only engage in contractual arrangement with buyers of palm oil they are familiar with or know at a very close level. Relational dimension that relates to assets that are embedded in relationships, such as trust act as a governance mechanism for embedded relationships (Uzzi, 1996 citet in Tsai and Ghoshal (1998). Trust therefore forms the bases on which contracts are made to aid access to palm fruits as well as encourage efforts to fulfilling contractual agreements. Though some palm oil processors are farmers and depend on their farm output, others engaged in buying the fruits from fruits vendors and/or farmers base on their social network/capital for processing.

To sum up, it is evident that individual firms compete for access to the highest quality and cheapest raw materials to lower cost of production. Processors access to fruits depends on their ability to control and use resources effectively. Dominant classes in the palm oil processing industry like those with access to contract money have the greatest chance of having access to regular supply of palm fruits during the lean season when access is competitive due to scarcity. This clearly points to the general principle that access depended on social identity as well as purchasing power. To return to the context of this study, resource access analysis is focused on the explanation and investigation of how productive resources are access in the palm oil industry.

2.2 Markets

Markets are essential for the poor just as they are for everyone. They are very important in the economy of every country and their effective functioning is relevant for the growth of economies. People will exchange only if they observe what they receive to be more valuable than what they give. In classical and neoclassical economic theory, markets are the centre of the stage. Actors in these markets are workers and consumers, firms, owners of resource, government and perhaps others. A market is an arrangement that allows buyers and sellers to exchange items. In mainstream economics, the notion of a market is any structure that allows buyers and sellers to exchange any type of goods, services and information. Markets can be categorized by their degree of competition, i.e., from a perfectly competitive market to monopoly as well as oligopoly and monopsony. Prefect competition market organization is observed to be common within the study area. According to Varian (1992), perfect competitive market involves a number of buyers and sellers trading in a uniform commodity with perfect knowledge about quality and price of product. As such no single buyer or seller has power to influence market price. Because there are a number of sellers and buyers of a common or uniform commodity (palm oil), no single seller or buyer has the power to influence price. Entry and exist is also free as there is actually no criteria or laid down procedure of entry and exist. Anybody with income and knowledge on method of processing

is free to start if only the person has market for the processed oil and can stop whenever the need arises.

While markets are regarded as the sphere of the affluent and market reforms a process from which the poor must be protected, markets can offer the most important means through which the poor can participate in economic activities. Improving the operations of markets can therefore have the potentials to raise incomes and reduce poverty on a large scale. However, when markets are functioning extensively, poorer people have less opportunity to participate and benefit from economic growth. Marketing orientation theory belief that the means to achieving organizational goals consists of being more effective in creating, delivering and communicating value to target market (Kotler and Keller, 2006 cited in Kagira et al., 2010). Improving functioning of markets is however essential for reducing poverty in developing countries (Ferrand *et al.*, 2004). This is evident that efficient marketing system can provide better prices to producers and improve the availability of competitively priced produce to consumers (Bernet et al., 2005 cited in Adhikari 2006).

Furthermore, food marketing in southern Ghana is dominated by a large number of independent operators mostly women. Existing market practices and market centers are described as rudimentary and poorly organized. Produce as a result passes through a number of intermediaries between farmer and consumer. This creates an opportunity for wholesalers and retailers to form associations of sellers that enable them act as a cartel (Adimabuno 2010). They usually appoint a market Queen like 'Yam Queen' or 'Palm oil Queen' to be in charge of the association and represent their interests. Agricultural market associations are important in controlling markets and agricultural sub-sectors. The powers of such cooperative actions are a remarkable feature of West African trade. Conscious actions are taken by these market players to control the entry and supply of agricultural commodities. An example is what Lyon and Porter (2007) examined in Nigeria market, where leaders have the power to prevent people coming to sell or to force others to leave the marketplace. These restrictions are enforced by the trader associations for each crop. The groups draw on traditional leadership structures and are led by an 'ohemma' (market queen). Similar organizational structures are also found elsewhere in Ghana (Clark, 1994; Gore, 1978; Lyon, 1999a; Schwimmer, 1976).

Palm oil traders are well organized and are therefore able to restrict entry into major market centers. This helps reduce price fluctuation and the probability of traders not being able sell the produce at a price that covers their cost. This they do by not allowing processors have direct opportunity to sell their palm oil at market centers. They also store part peak season oil when prices are relatively low so as to influence price. Simple marketing channels and market structures like that reported by Thapa and Poudel, (2003), of which farmers take their produce to the local market centers were not identify as a common practice. They reported that farmers take their produce to the local market centres and sell either to retailers or directly to consumers at the local level. However, selected market places and infrastructure in most developing countries are inadequate and not always easily accessible. As such transporting produce to the market is a problem. Processors in the study area therefore prefer

to sell their oil at processing site to itinerant traders. This according to them is because of the so much inconvenience and cost attach to carrying small quantity of oil to the market center to sell, unlike palm oil traders who purchase from a number of processors before transporting to the market.

Common place where produce are sold in developing countries generally include homesteads and road side (Crawford, 1997). The marketing of agricultural produce of which palm oil is not of exception is described as being highly complex and complicated involving extended marketing channels and a large number of middlemen. Various arrangements are therefore made by the state as well as traders to ensure and enhance the supply of market products. Though the state has played a role in the marketing of staple food crops since the 1960s, marketing in Ghana is done predominantly by women traders, either working alone or with family members (Clark, 1994; Gore, 1978; Schwimmer, 1976 cited in Lyon, 2000). Traders of palm oil and processors as well as farmers in the study area engage in customer relationships to ensure that traders do not buy from other areas. This guarantee trader with continuous supply when there is a level of scarcity, and the processor with market when there is an excess, allowing both to reduce uncertainty.

In Ghana life revolves around markets as buses are raided even before they come to a stop with people trading anything. Stalls are almost everywhere you go and any place can be turn into a market place. Although market places are usually chaotic and crowded, goods are piled up in an orderly manner for easy identification. Unlike markets in other countries, Ghanaian markets centers are unique in that one would hardly find a market place that trades in one particular group of wares. In a typical Ghanaian market centers, one can find everything from vegetables to clothing.

Bennett claims that in today's competitive and ever more global marketplace, managers plan for product distribution as they plan their products. Decisions relating to the channels of distribution for a product or service are therefore part of a strategic marketing plan. This plan specifies the target market as well as target levels of market share, market coverage, customer service and so on. Applying this theory, it is evident that there is some level of market planning. This is because contractual arrangement are made between processors and buyers of palm oil for the supply of oil and also between processors and fruits vendors for the supply of fruit at predetermined prices and quantities. The target markets, the market coverage, among others are taken into consideration by immediate buyers before credit is advance to processors in aid of search for fruits for processing.

In summary, different types of market intrude on the lives of the poor. Nevertheless the operation of markets offer the primary means through which the poor can participate in economic activities. The potentials then exist to raise incomes and reduce poverty on a massive scale if efficient marketing system can afford better prices to producers. The notion that the key to organizational or business success is through the determination and satisfaction of the needs, wants and aspirations of target markets cannot be overlooked. This must therefore be pursued more effectively and efficiently with the purpose of achieving

profitability or satisfying goals (Blankson and Cheng, 2005). Building on this argument, the study analyzed the applicability and the strength of the concept market in general among Ghanaian palm oil processors.

2.3 Pricing Mechanisms

Price fixing has since been known as a problem in natural market. There is the acknowledgment that macroeconomic policies directly and indirectly influence levels and volatility of absolute and relative agricultural prices Krueger, Schiff, and Valdes (1988): Lapp and Smith (1992). In the absence of hedging mechanisms, increases price volatility can have negative impact on both consumers and producers of agricultural commodities Binswanger and Rosenzweig, (1986). An example is about the effects of structural adjustment programs introduced in developing economies during the economic crisis of the 1980s. In the past both direct and indirect government interventions have reduced maize price variability in Ghana (Shively, 1996). A key issue in the marketing of agricultural produce in Ghana can be attributed to price variability. Both in-season and year-to-year price variability in spatially separated markets provide an indication of how the market system may react to changing economic conditions. A study of the monthly market prices in Ashanti Region illustrated significant variations in prices between markets at the same time. For instance, the prices of plantain, cocoyam and tomatoes varied considerably in different district markets. The price of cassava in one market was reported to be six times the price at another in the same month which could be attributed to poor price information Rizet and Hine, (1993).

Agricultural commodities are characterized by pronounced seasonality as supply changes depending on the time of the year which tremendously effect price (Amikuzuno and Ihle, 2010). According to Goodwin et al, agricultural products prices may reflect seasonal production patterns by being at their lowest at peak production and highest at lean seasons (Goodwin et al., 2002). This is especially typical of perishable commodities which stay only a short time such as fruits and vegetables. The impact of seasonality is more pronounced in developing countries where crop production is largely weather dependent, and where storage in the form of mechanical refrigeration and processing facilities are lacking. Tomatoes production in Ghana for instance shows a seasonal pattern and price typically vary substantially even within a week. It is however acknowledged that traders of these perishable and seasonally produced commodities adjust their prices as the volume of the produce in supply changes (Parrott et al., 2001 cited in Amikuzuno and Ihle, 2010). Seasonal effects on the production of commodities may also affect market performance such as transaction costs, prices and trade flows between spatially connected markets (Eduardo and Mario, 2001).

Both the farm gate and wholesale prices of Ghanaian farm produce like yam have also steadily been increasing in recent years, This commodity also depicts a seasonal pattern of price with wholesale prices increasing at a higher rate. Prices in the wholesale markets fluctuate considerably over the year, reflecting the spatial-temporal variation in production, influenced by weather patterns, access to irrigation among others. Highest in June and July

when yam is out of season and in low supply of which farmers receive a higher price relative to other points in the year (Matthew n.d).

In applying these concepts in this context, palm fruit are high perishable, and seasonal in nature. While the processing of palm oil is continuous or done throughout the year, access to palm fruits in general is seasonal. Traders in this industry therefore turn to adjust prices as the volume supply alters due to changes in the supply of palm fruits. Supply is high during the peak season (February-April) while low in the lean season commencing a fairly higher price (Amikuzuno and Ihle, 2010). This implies that price volatility and variability can be attributed to seasonality of product. It is therefore not surprise to find the price of palm oil being high during the lean and low during the peak season. Observation of three market centers during the research period indicates less pronounced price variability between markets at the same time. The price of palm oil is observed to be the same at every market center as well as the processing site irrespective of the location of the processing site or distance to the market center. Retail price is therefore fixed or the same across board regardless of where it is being sale. Creating markets through enhancing fair prices for producers and processors is therefore necessary since it has the advantage of ensuring that natural resources are allocated efficiently and put to their best use (Ayoo; 2008, 19, 550-564).

In conclusion, macroeconomic policies directly and indirectly influence levels and volatility of absolute and relative agricultural prices. Significant variations in prices between markets at the same time are common feature of the Ghanaian market. To enhance the efficient allocation and best use of resources it is important to create markets enhancing fair prices for producers and processors, since some parties within the distribution channel carry greater weight than others which often put them in the position to make demands of others. Concepts in relation to pricing mechanisms are applied to analyze how efficient pricing of palm oil is determined and how the relationship between processors and palm oil traders. The analysis of this concept is base on the fact that prices are desirable planning instruments which can be used for allocating productive resources.

2.4 Institutional Mechanisms

There is no particular and generally fixed definition of an 'institution' in the institutional school of thought. Scott (1995:33, 2001:48) asserts that "Institutions are social structures that have attained a high degree of resilience". Institutions which are either formal or informal are made up of cultural-cognitive, normative, and regulative elements couple with related activities and resources, offer stability and sense to social life (Koulikoff-Souvion and Harrison, 2008). Institutions are defined by Elinor Ostrom as "the set of working rules that are used to determine who is eligible to make decisions in some arena, what actions are allowed or constrained, what aggregation rules will be used, what procedures must be followed, what information must or must not be provided, and what payoffs will be assigned to individuals dependent on their actions" (Ostrom, 1990: 51). Jepperson (1991) however, defines institutions more generally to be any social patterns which portray standard course of

interactions. This definition tends to reflect the social science discipline. In economics, institutions help to minimize market transaction costs (North, 1990).

The limits of human activities are governed by society's institutional framework. The establishment or setting of a legal framework as well as management policies in line with biological resource use and access are the major role of institutional actors. Trade involves interaction and a level of protection which is guided by the effective functioning of both legal and none-legal institutional measures. None legal measures like trust or coercion are relied upon by small-scale rural producers and traders in developing countries. Regardless of uncertainties, risks and the possibility for people to act opportunistically, trust operates when there is confidence in agents (Misztal, 1996; Gambetta, 1988; cited in Lyon, 2000). Traders or producers do not only aim to maximize profit, but may also consider minimizing risks and maximizing access through developing personal relationships with other agents (Lyon, 2000). Social networks are highly regarded and embedded in the study area. Traders of palm oil and processors are more like friends than business associates. A trader can spend a whole day at the processing site helping to carry par-boiled fruits onto the semi-mechanized mailing machine for milling or even buy lunch from the market centre to the processing site for them.

The importance of institutions in linking producers and processors to market is highlighted by Van Huylenbroeck and colleagues. According to them, institutions create incentive for individuals to invest, become more acquainted with their environment and organize the markets they are involved. Furthermore, new institutional arrangement should address particular challenges of people concern for success (Pokharel & Thapa, 2007). This stems from the notion that in the absence of institutionalized services, the price received by producer is not remunerative (ibid). Traders in Ghana are usually in association and can act as cartels to restrict access to markets. Traders justify these associations as a way of ensuring their market power and also a way of reducing their transaction costs as they are able to stabilize price volatility as well as retain their customers (Lyon, 1999b). This is clearly related to what happens in the study area in an attempt by processors to access market. Traders, middlemen as well as exporters benefit from poor linkages between producers and consumer as they provide low price at farm gate and high price for consumers.

To conclude, though there is no single and universally agreed definition of an 'institution', there are varying perceptions of what institutions really represent. This ranges from formal and informal rule that guides the behaviour of actors within an economy to social patterns that depict standard line of interaction. The limits of human activities are governed by society's institutional framework that set legal as well as management framework guiding resource use and access. Albeit, there are no formal institutional mechanisms in the palm oil industry, informal contractual arrangements are made base on trust creating some form of linkages between processors and traders and also between processors and fruit vendors. This arrangement however favours traders as low price is paid at processing site compared to the price receive by traders in the market. However processors are guaranteed ready market. The creation of specific institutional task through policy making, rule enforcing, financing, among others to ensure and enhance a fair price receive at every level is relevant since the notion is

that price received by producers is not remunerative in the absence of institutionalized services.

2.5 Contracting

Producing and selling on a contractual basis is a common arrangement in agriculture all over the world. The theory of contracts has existed particularly for perishable agricultural products, such as milk for the dairy industry or fruits and vegetables for making preserve (Little and Watts (1994). Contractual arrangements are devised mostly for reducing transaction costs. They are a form of institutional arrangements that direct the way economic actors cooperate or compete. Contracting has become more important in the agricultural and food industries of the developed and developing countries at the end of the 20th century. This is driven by changes in (international) competition, consumer demands, among others which are arranged in a chain of networks that are strictly managed.

In developing countries, contracting is predominant in farming activities commonly referred to as Contract Farming (CF). CF has been defined as an agreement between one or more farmers and a contractor for the production and supply of agricultural products under forward agreements, frequently at predetermined prices (Eaton and Shepherd, 2001). The contractor can be a processing or marketing firm, a private or a public entity. The agreement usually has to do with the provision of support by the contractor, such as inputs, technical assistance among others. The initiative to create a contract scheme is always the contractor's idea, as a way to improve the supply of quality products and to upturn the utilization of specific assets. States concerns with promoting critical commodity chains may also drive CF, an example is China.

Another definition of CF is an agricultural production carried out according to a prior agreement in which the farmer commits to producing a given product in a given manner and the buyer commits to purchasing it. Often, the buyer provides the farmer with technical assistance, seeds, fertilizer and other inputs on credit and offers a guaranteed price for the output (Minot, 2007). A definition also worth noting is the one put forward by Baumann (2000) who refers to contract farming as "a system where a central processing or exporting unit purchases the harvests of independent farmers and the terms of the purchase are arranged in advance through contracts". The terms of the contract vary and usually specify how much produce the contractor will buy and what price they will pay for it. Again, contracting involves a pre-harvest agreement between producers and contractors on conditions surrounding the sale of the product in question. It specifies quality of product beside time and location of sales. This reduces the produces uncertainty of locating a market for the product since it helps in access to ready market.

Contracts can be categorised under formal (written) and informal (verbal) arrangements. In many developing countries, notably in Sub-Saharan Africa, there is no tradition of written contract. Most contracts are informal and incomplete because variables used are not easily verified in case of breach by court. Informal agreements and understanding are therefore

commonly used and valued (Fafchamps, 2004 cited in Bijman, 2008). The motivation to comply or respect contract is usually based on both economic and social incentive (Nooteboom, 2002; Woolthuis et al., 2005 cited in Bijman, 2008). This can be derived from current and potential networks of contracting partners and the mutual dependency or uniqueness of partner value.

In applying the concept of Contract Farming to the contractual arrangement that exist in the palm oil industry, it becomes evident the role and position the palm oil trader occupies in the industry. Buyers/traders (contractor) frequently advance credit to processors on prearranged conditions in aid of access to fruits for processing. The processed oil is therefore supplied to cover credit received. This is normally based on informal verbal agreement which serves as a way of allocating risk between processor and trader. The former takes the risk of production and the latter the risk of marketing. These arrangements however confirm the motive behind search actions as a quest for additional sources of capital to invest or expand production. It is also a means of shifting part of the risk of adverse price changes to the buyer as well (Hill & Ingersent, 1982 cited in Singh, 2002).

Besides providing guaranteed and steady quality raw material supplies, contracts make smaller demands on scarce capital resources (Buch- Hansen & Marcussen, 1982; Kirk, 1987 cited in Singh, 2002). Due to the scarcity of raw materials (palm fruits) during the lean season, varying contractual arrangements are made. This is between palm oil traders and processors and also between processors and palm fruit vendors (FV) or farmers in aid access to processed palm oil and fruits. This in the long-run benefits all stakeholders involved. Political economy however shears a different view on the benefits of contracting. Contracting it argues only exist when the role of the state in agriculture is weaken or when the agricultural markets such as farm produce or credit becomes less competitive or inefficient. Capital accumulation and exploitation or capitalist penetration is therefore enhanced through contract production mode (Singh, 2002).

Mighell and Jones (1963) distinguish three agricultural contracts based on main objectives, decision-right and risks transfers. They include market-specification contracts, production-management contracts and resource-providing contracts. Under the resource-providing contract the contractor not only provides a market channel for the product, but he/she also provides key inputs like credit in the context of the study. The palm oil trader provides inputs in the form of credit which is recovered upon delivery of processed oil. This resource providing contract can reduce the costs of obtaining credit, inputs among others.

Varying reasons are account for engaging in contractual arrangement. This ranges from the expectation of it leading to a higher income and/or more stable income to poverty reduction. Masakure and Henson (2005) have explored the motivations behind the decisions of small-scale producers to grow non-traditional vegetables under contract for export. Based on a survey among smallholders in Zimbabwe in 2001-2002, they found four factors inspiring contracting, namely market uncertainty, indirect benefits (e.g. knowledge acquisitions), income benefits, and intangible benefits (e.g. status). CF also aim to reduce the role of the

state in providing marketing, input and technical services and thus solve the problem of farmer access to inputs (Key and Runsten, 1999). On the contrary, Randi (1992) observed that unfairness is one of the critical discrepancies of contract framing.

To conclude, contracting or contract arrangements has existed particularly for perishable agricultural products. Contracting between producers on the one hand and processing or marketing agribusinesses on the other hand is therefore a method to strengthen vertical coordination in the agrifood chain. Different reasons are assigned to engaging in contracts. These include the fact that smallholders may benefit through reduced risk in production and marketing, and improved access to inputs, technical assistance and credit. This is therefore expected to lead to higher income and/or more stable income in the long-run. Applying this concept clearly shows the relevance of contractual arrangements as a means for additional source of income to argument production or processing and role of palm oil trader within the industry. This implies that when contract are well arrange stakeholders in this industry stand a greater chance of benefiting. This is because the processor is guaranteed frequent supply of fruits and ready market for processed oil and the palm oil trader is assure of supply of oil for customers. It is also more beneficial because contracts are more flexible in the presents of market uncertainty.

2.6 Conclusion

To conclude, the concepts reviewed under this chapter form the basis for the analysis of the finding of the research. The question therefore is whether these concepts are wholly applicable or not. The relative weight acknowledged to each of the concepts by the interviews and observation carried out during the research serve as basis for discussion as presented in the discussion chapter. Base on literature reviewed, a conceptual framework of the study is developed. The framework gives a conceptual picture of how the study is conducted and analyzed. This helps to generate an understanding of the research study.

The framework focused on two parts; the relationship of group processors to buyers or sellers of palm oil and the mechanisms involved in setting or determining price; and group processors relationship with farmers/ fruit vendors in accessing palm fruits. The study looks at the relationship of group processors to buyers/traders of palm oil as indicated at the upper part of the framework. Aspects analyzes include mechanisms used by processors in their choice of buyers to retain as customers which to a large extent depends on their social ties. However, by virtue of strong associations and with the help of market queens, palm oil traders are able to manipulate others (processor) to their advantage as they significantly have control over market and price. With regards to contracting, informal contracts are undertaken between processors and buyer or traders of palm oil on the one hand and between processors and framers/fruit vendors on the other hand in accessing palm oil and palm fruits respectively.

The lower part of the framework is about the relationship between processors and farmers/fruit vendors in accessing palm fruits for processing. The channels of access and

place of access are aspects analyzed. Informal contractual arrangements and the complexities surrounding access and timely supply of fruits are aspects that are also looked at. The assumption that prices are desirable planning instruments useful for allocating productive resources is very important in this research study. This is because to some extent price of palm fruits and palm oil are very important in determining the benefits derive from this industry. Price determination and information gathering are aspects that are equally focused on in this research study.

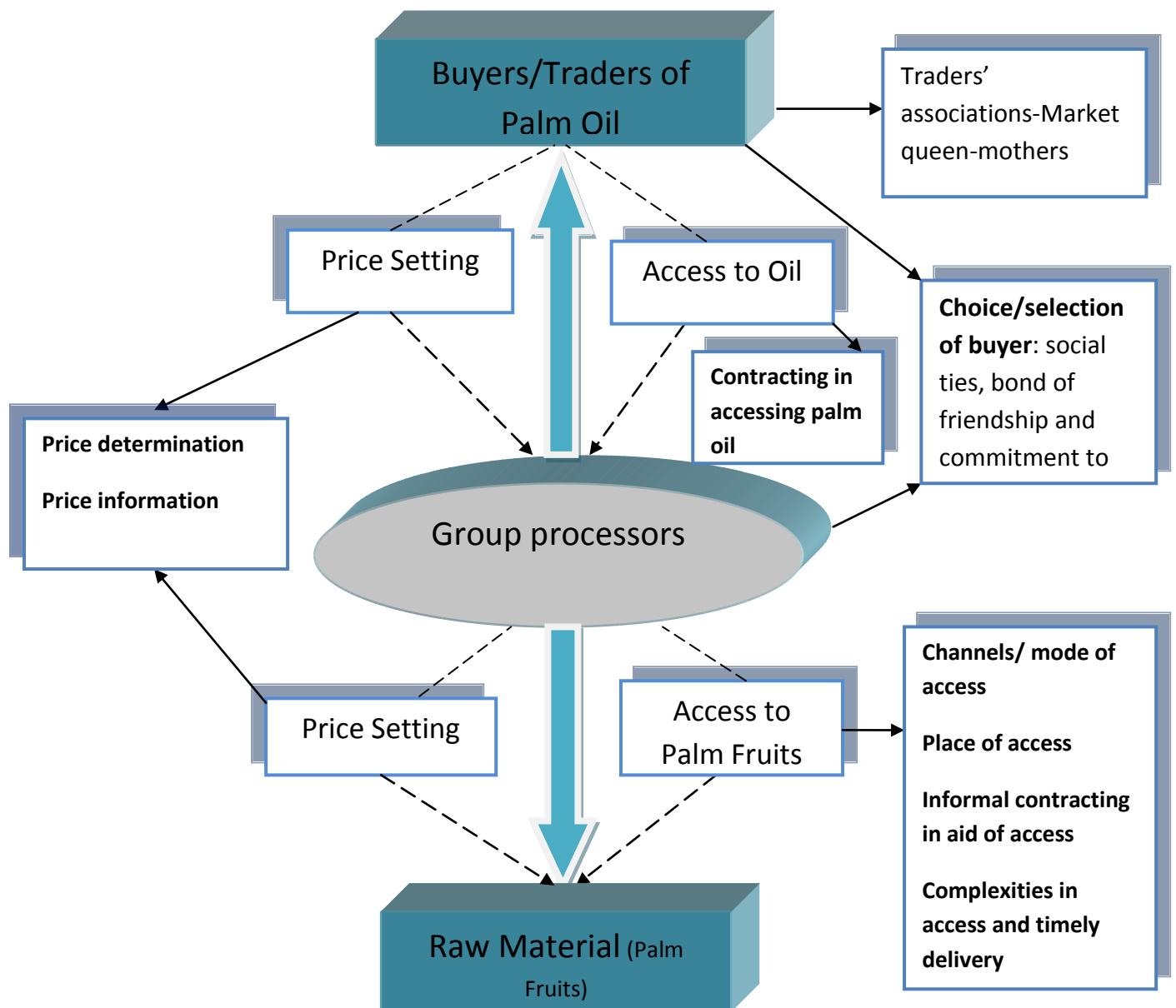


Figure 1: Diagram indicating data collection and analysis

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter sets out the conceptual framework within which the study is embedded. It discusses two processing groups identify in the study area and how they relate and act individually or as a group in the act of processing. It further describes the aspects involve in the palm oil processing industry and aim to identify and analyze how these processing groups access fruits and how they relate with immediate buyers. The following sectors are also incorporated in this section, Definition of boundary or research area, sample map of study area, demographic information of communities selected for the study, unit of analysis, sampling techniques, methods of data collection and analysis.

3.1 Research Design

Case study design is employed in this research study. Yin (1984:23) defines case study research method “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used”. This method revealed and gave an insight into how processing units/groups relate as a group and with others like palm oil traders and fruit vendors. This method goes beyond quantitative statistical results to understand the behavioral conditions through the actor’s perspective and enhanced an extensive description of the case.

Both qualitative and quantitative data collection methods are implored in gathering data for analysis. This relates to the relationship between group processors to that of palm oil traders in terms of access and price setting of oil on one hand; and the relationship of these processors to fruit vendors in terms of activities involved or undertaken in accessing palm fruits.

3.2 Definition of Boundary/ Research Area

Agriculture is the predominant economic activity in West Akim Municipality of Eastern Region in Ghana. It is one of the best terrains for agriculture in the entire country and a congenial climate for the cultivation of a wide variety of cash crops like oil palm, coca and citrus as well as food crops like plantain, cassava, cocoyam among others. This serves as the main source of livelihood for over 52.1% of the labour force and contributes about 80% of the internally generated fund of the district assembly. Eastern region is one of the largest growers and processor of oil palm. It is however not surprising that the West Akim Municipality was selected for the Presidential Special Initiative(PSI) on oil palm which aimed to make the oil palm industry one of the new key drivers of economic growth and wealth creation.

West Akim Municipal is in the Eastern Region of Ghana. It has an area of about 1,018 square kilometers. The Municipal capital, Asamankese, is located at the southern portion of Eastern Region, about 75 kilometres North-West of Accra off the main Accra-Kumasi trunk road. It covers a land area of 1018km² with a population of 154,161 in 2000 (Housing and population census 2000). Asamankese is the primary area of the research study. And palm oil production and cassava processing are the most organized household industries in the municipality. Research is done in the form of fieldwork. Specific processing groups from Ekoso and Sukrong Awamfi were identified for the field study with traders coming from Asamankese, Adeiso among others. This area is selected because it forms one of the four major marketing towns in the district (the biggest) where processing and marketing of palm oil is done. It is also endowed with information richness due to its historical background on palm oil processing which helped answer the research questions.

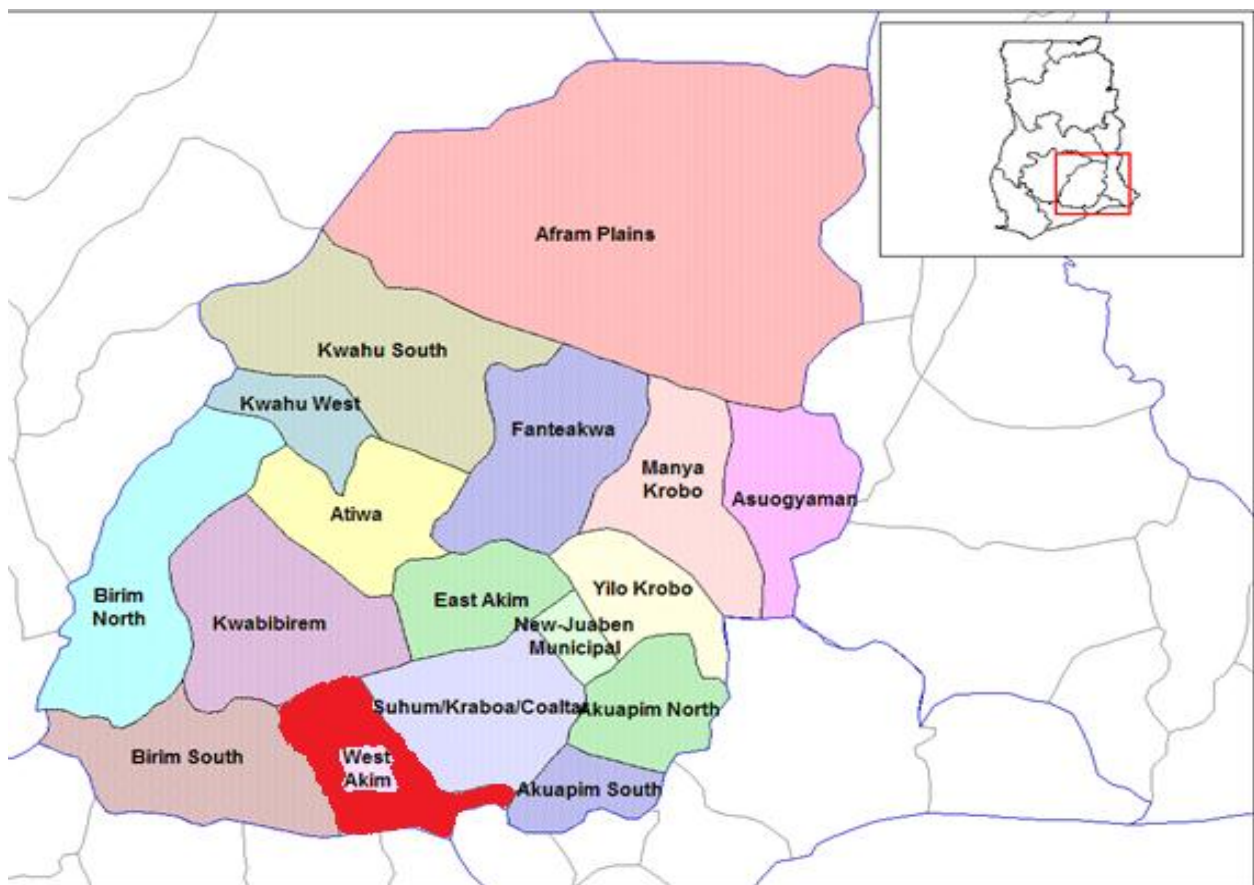


Figure 2: Research location indicating selected study area in red

Source: westakim.ghanadistricts.gov.gh

3.2.1 Demographic information of communities included in the study

Table 1: demographic information of four communities

Communities	Asamenkese	Adeiso	Osenase	Ekoso
Total Population	34,855	8,742	6,894	3,908

Source: population and housing census, 2010

3.3 Unit of Analysis

Data for the research is gathered from multiple sources and the reasons for using multiple sources were to increase authenticity of the data. Almost all interviews were carried out at processing or operation site. Unit of analysis are stakeholders/actors involved in the processing of oil palm with specific attention to group processors. Small and large-scale oil palm processors and fruit vendors in Asamankese, Ekoso, and Sukrong Awamfi as well as immediate buyers of palm oil in these areas formed part of the study. Other institutional organizations involved in the selling and buying of oil palm fruits and palm oil at the domestic market were included.

3.4 Sampling and Sampling Methods

Purposive sampling which allows explicit selection of interviewees who are likely to generate appropriate and useful data for the research study (Green and Thorogood, 2009) is employed. This enabled the identification of women groups into processing of palm oil and oil palm farmers in the district. It also made it possible for the selection of palm oil traders as well as key stakeholders in the industry. This is based on the observation that processing of palm oil at local levels was and is still done by women in rural communities (Hyman 1990, Poku 2002).

In all two processing groups were selected as part of the study based on distance to the district capital, method of processing and their experience and information richness. One group, located at Ekoso 15 miles from Asamankese with a semi-mechanized method of processing is included in the study. The other group is at Sukrong Awamfi, 17 miles from Asamankese to Adieso and from Adieso to Sukrong Awamfi is 7 miles. This group resort to the traditional method of processing. The number of people who formed part of the sample are those who were in active processing during the research period. In all 28 processors were identified and interviewed. 13 processors interviewed came from Sukrong Awamfi with all of them owning small-scale farms of between 2 – 5 acres while the remaining 15 came from Ekoso. Representative of Rural Enterprise Project under the District Assembly and Micro finance institutions like ECOFF Ghana were interviewed to elicit what government initiatives or support are for palm oil processors and the kind of financial assistance given to them by micro-finance institute.

Snowball sampling which enhances the building of a sample through referrals (Zina O’Leary, 2004) is used to identify key buyer or traders of palm oil in and outside the district. 5

immediate buyers are identified and interviewed. Handpicked sampling method, which involves the selection of a sample with a particular purpose in mind (Zina O'Leary, 2004) was used in selecting individual processors and retailers in the market. This is used because the research is about palm oil processing, therefore all processors and retailers of palm oil were purposefully selected to form the sample frame because of their experience in the business. Another method used is accidental sampling. This method is a non- probability sampling which involves the sample being drawn from that part of the population which is close at hand or readily available and convenient. This sample is unintended or unplanned for but however included because of the relevance of their activities and knowledge in relation to the topic under study. An example is the acting palm oil queen mother at Adieso market. She was identified accidentally on a visited to Adieso market on a market day and interviewed. Questions related to how market is access and the roles of the queen mother in the palm oil industry are asked.

3.5 Methods of Data Collection

Both qualitative and quantitative primary and secondary data are gathered from various sources for analysis. Informal interviews that are more like natural conversations that happen fortuitously in the field to gather data opportunistically is used (Green and Thorogood, 2008). Both formal and informal interviews are conducted using semi-structured interview guide. In-depth interview methods which allow the respondent enough time to develop their own account of the issues important to them is implored in gathering data from respondents on the influence of price received by processors in the oil palm industry. A group interview which enables the researcher to gather data from more than one participant (Green and Thorogood, 2008) is used to gather information from both farmers and processors of oil palm as well as buyer. This gave an insight into relationship among actors involved and the kind of market that exist in the palm oil industry. Focus groups discussion is initially conducted at the two study site as part of baseline survey before finalization interview guide and commencement of research. One-to-one interviews are also conducted since it was not possible to gather all processors at one place for interview. Interaction between actors involved in determining price is recorded through observation. Secondary data which include formal and informal written materials available that are either published or not published and internet data sources are relied on for background information on the topic under study, the study area and literature review of key concepts.



Photo 1: Respondents engaged in a focus group discussion

Source: field survey, 2010

Data and findings during fieldwork are recorded as field notes, with tape recording of all interviews, conversations, and group discussions. Field notes of observation at processing site and market centers are also taken.

3.6 Methods of Data Analysis

Transcription of field data is done immediately after field work of every stage of the research. Yin (1994) presented two strategies for analysis of case study data. One is to rely on theoretical propositions of the study, and then to analyse the evidence based on those propositions, the other technique is to develop a case description, which would be a framework for organizing the case study. Analysis of the research data is base on case description. Yin (1984:23) defines case study research method as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.” This method help identify happening in their natural context in the palm oil industry. It further confer light on how processing unit relate as a group and with others which go beyond quantitative statistical results to understand the behavioral conditions through the actor’s perspective.

Stake (1995) recommended categorical aggregation as another means of analysis and also suggested developing protocols to enhance the quality of the research. However, he favored coding the data and identifying the issues more clearly at the analysis stage. Transcription and coding of interviews is employed to identify themes and concepts during analysis. Direct interpretation of observation was employed as Eisner and Peshkin (1990) placed a high priority on direct interpretation of events as another viable alternative to be considered. Analysis of quantitative data is put in tables and graphs as indicated in the data presentation stage.

3.7 Conclusion

In conclusion, the chapter provides a general overview of the theoretical framework which gives an outline of how the research was carried out. Asamankese in West Akim district of the Eastern Region is the primary area of the field study. Research was done in the form of fieldwork involving stakeholders/ actors in palm oil processing business with specific attention on group processors from Ekoso and Sukrong Awamfi and palm oil trader traders. Almost all interviews are carried out at processing or operation site. Sample and sampling methods used include purposive sampling, snowball sampling, handpicked sampling and accidental sampling. Both qualitative and quantitative primary and secondary data are gathered from various sources for analysis. And various interviews are conducted using an interview guide. This is done through focus group discussion, one-to-one interviews as well as observation of happening within the processing site. The analysis of data gathered is through transcription, interpretation and coding.

CHAPTER FOUR: FINDINGS OF STUDY

The essence of this section is to present the data gathered as part of the research study. It starts with a description of two women's groups and how they act individually or as a group in the act of processing which distinguish them from other groups. Channels of marketing, buyers' selection, modes of access to fruits and oil as well as contractual arrangements, price mechanism and institutions involved are presented in this section

4.1 General overview of women groups studied

4.1.1 Group 1- Ekoso "Adra" group

Adra group is located 15miles from the district capital Asamankese with 15 regular processors. This group is made up of individual processors who make individual decisions regarding the quantity of palm oil to process per week, the arrangement in getting access to palm fruits and transportation of fruits to processing site as well as market. There are no lay down criteria for becoming a member of this group, however you need to know somebody from this group to become a member. No prior information or knowledge is required when leaving the group. Processors are free to leave any time they wish. Regardless of the individual initiative and decision making, these processors identified themselves as a group first based on their spatial arrangement.

As a group they operate at the same location, thus one spatial or geographical location of activities. They all use one semi-mechanized method of processing consequently producing oil with similar taste and colour. As a group you are allowed to use each other's facilities during processing and also collectively assist each other transfer or offload steamed palm fruits from containers to milling machine. It is important to note that the collective action of offloading steamed palm fruits from containers to milling machine is only an obligation of all those processing the same day. For example, if there are 5 processors processing in a day, the first to arrive at the processing site is automatically first to mill and goes on in an order of 'first come first serve' till the last processor finishes. All 5 are therefore to help the first processor to finish milling before the next until the last person to process is done.



Photo 2: Collective action of offloading steamed palm fruits from containers to milling machine

Source: field survey

Though they individually decide among the regular buyers whom to sell their processed oil to and the quantity to sell to each buyer/trader, price is collectively decided. This is done on regular basis depending on the price of palm fruits in the market which is highly seasonal in nature. Price can however change monthly or even twice in a month depending on the availability of fruits in the market. The price of 62.5 liters jerry can of oil is therefore charged the same at every processing site. Processors from this group do not sell to non-regular buyers who come to the processing site with money ready to buy. This decision they admitted to having taken is because some of these irregular buyers do not care whether they get people to buy their oil during the peak season or not. They simply disappear and don't buy from them during the peak season until the lean season of which where they might have been buying from during the peak season can't supply due to limited access to palm fruits. They therefore prefer to sell to buyers that will always buy from them irrespective of the season. In terms of getting new clients, they rely on buyers they deal with to recommend new clients for them. The selection of new clients is also base on knowledge or familiarity of that buyer to processor.

4.1.2 Group 2- Sukrong Awamfi Group

This group is located at Sukrong Awamfi. It is 17 miles from Asamankese to Adieso, and 7 miles from Adieso to Sukrong Awamfi. You therefore cover 24 miles in all to get to that location from Asamankese. This group resort to the traditional method of processing. 13 individual processors interviewed came from this community of which 3 are men. These processors own small-scale farms of between 2 – 5 arcs. They undertake processing activities individually with family labour or hired labour and do not render help to each other.



Photo 3: Individual undertaking processing

Source: field survey, 2010

They individually decide: where to buy fruits from; the quantity of palm fruits to process per week; and way of accessing fruits for processing. They also individually decide whom to sell their processed palm oil to and the quantity to sell to each buyer. Some processors in this group sell processed oil to people who are not regular customers are provided the person has money to pay. However, these processors decided to organize themselves into a group to enable them access credit from financial institutions like ECOFF, which group access is required. They are identified as a group based on their common geographic location of processing site and the method used in processing. This group uses the traditional method of processing. This involves pounding cooked fruits in large wooden or concrete mortars with a wooden pestle or foot trampling the cooked fruits in specially constructed concrete troughs. Hand squeezing to remove fibre and nuts is done afterwards using cold water. The water is then filtered out and the remaining mixture boiled to allow the palm oil skim for easy extraction. Price received for oil is the same at this processing site. With regards to use of facilities at processing site, you pay a token or give about 500g tin of oil for use of someone else's facilities for processing.

4.1.3 Similarities and Differences in Groups

Groups similarity is based on their common geographic location for processing and their individuality when it comes to access to fruits and market. They both used family and hired labour. They also collectively charge the same price for the same quantity of oil sold at each processing site. However there are differences in their composition and method of processing. Group 1 is made up of only female processors and group 2 have males' processors. Group 1 permits the use of each other's facilities during processing without payment. They also collectively assist each other during processing. On the contrary, group 2 undertakes processing activities individually with only the help of family labour or hired labour. They also make payment with regards to the use of other people's facilities at processing site. Group 2 members are also sell oil to none-regular buyers provided they have ready cash unlike group 1 that only sell to recognized customers. While group 1 uses the semi-mechanized processing method group two uses the traditional method of processing.

To sum up, processors in groups create economic of scale as palm oil traders have access to more oil for different processors at the same place. Most processors are able to process larger quantities due to group processing. Group processing also enhances identity as processors are identified by their location, processing method and quality of oil processed. Buyers are therefore attracted to places that identify themselves as groups because they will never lack access to oil at any time they visit.

4.2 Access of Raw Materials for Processing

4.2.1 Channel of Access

In the study area seasonality and timely delivery of fruits have influence in the availability and accessibility to palm fruits. Palm fruits are in abundance during the peak season (February-April) of which the quantity process depends on your strength and how regular you get customers to buy the palm oil. While during the lean season (July-December) is quite difficult to have access to fruits as the yield is less creating scarcity and competition. Varying ways in having access to palm fruits for processing are therefore employed especially during the lean season. Even though the yield for harvest of palm fruits is not stable or regular all year round, different arrangement is made to help processor have regular access to fruits. Three different channels or methods are employed in ensuring access to regular fruits supply for processing: buying fruits directly from farmers; buying from intermediaries who trade in fruits (fruit vendors); and resorting to own/family oil palm plantations fruits. Most intermediaries usually call on phone to make arrangement or inform processors when they have enough fruits before processor travel from their homes in search of fruits. From the diagram it is evident that the most common method employed in accessing palm fruits is through middle men/women(fruit vendors) referred to as intermediaries (57%).

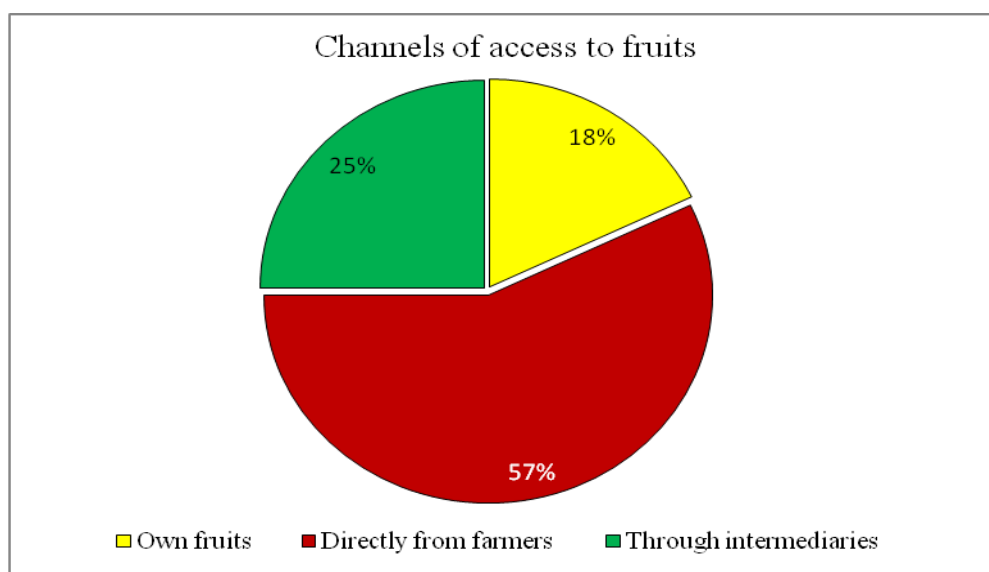


Figure 3: channels of fruits access for processing palm oil

Source: data analysis, 2011

The large number of processors accessing fruits through intermediary can be attributed to the fact that most processors do not come from villages with large tracks of palm trees or oil palm plantation farms. As such they have no direct contact with farmers. Not coming from such communities also means that you will not know or be able to tell which farm belongs to which person. It is therefore possible you could buy from someone who might have stolen from someone else's farm. To them, people steal palm fruits to sell and if you are not careful you could get into trouble. According to one of the processors in Ekoso, a year ago someone brought fruits to their processing site to sell but upon interrogation she realized the man might have stolen the fruits. This is because he could neither give a clear direction of where his farm is located nor where he got the fruits from. So she refused to buy. However another person from the processing site bought the fruits that day. Three days later police officers accompanied that very man to their processing site in search of the one who bought the fruits. She was taken away and asked to pay for the fruits and a fine of 500 Ghana Cedis. So to avoid such instances you prefer to buy from intermediaries who usually come from those areas and know which farm belongs to which person. These intermediaries referred to as fruit vendors (FV) have taken sourcing of fruits at farm gates and selling to oil processors, other retailers and chop bar operators as a job. Another motivation for most processors using or buying from intermediaries is the time invested in searching for fruits. According to a processor from Sukrong Awamfi 'I have little children I take care of, how can I then stay long outside my village in search of fruits. I need to always get back early to take care of them, to me is quite easier, faster with less stress dealing with FV than the farmers who prefer to sell the fruits in bunches'. Fruit vendors or intermediaries always remove the fruits from bunches and bag them before selling which makes everything easier.

4.2.2 Mode of Access

While some processors travel personally to other towns/communities like Kade and Aboabo in search of fruits to buy, others buy directly from farmers around their locality/community or use own or family palm tree plantation fruits. Others equally arrange with farmers to supply fruits any time they harvest or contract people they refer to as clients to move round and to other villages in search of fruits for supply on regular bases. With this informal arrangement, people contracted as fruits vendors for specific processors are paid a commission of 2 Ghana Cedis on each bag of fruits gotten or supplied. Below is a table indicating the number of processors that employ a particular mode in accessing palm fruits.

Table 2: mode of access to fruits

	Group 1	Group 2
Travel to other towns nearby towns	5	5
Contract people	7	2
Own farm fruits + buy from community farmers	3	6

Source: field work

4.2.3 Use of more than one channel for access to fruits for processing

Processors employ two or three methods for getting access to fruits for processing. The findings indicate that majority of processors employing all methods to facilitate access to the required quantity of fruits for processing. From the table below, out of 28 people interviewed 10 employ all three methods in having access to require quantity of palm fruits at every processing period.

Table 3: Channel of fruits access and number of processors

Mode of fruits access	Number of processors
Use of own fruits	3
Buy directly from farmers	2
Buy from intermediaries(fruit vendors)	6
Own fruits + buy directly from farmers	3
Directly from framers + intermediaries	1
Own fruits + buy from intermediaries	3
Own fruits + directly from farmers + intermediaries	10

Source: field work, 2010

Processor maintains the same source for supply of fruits. Maintaining the same source for supply of raw material (palm fruits) built trust and enhances their opportunity to getting fruits even during the lean season when fruits are scarce and therefore hard to come by.

4.3 Arrangement Facilitating Access to Fruits

4.3.1 Complexity in sourcing and delivery of palm fruits

The timely delivery of palm fruits to processing side is very important in the palm oil industry. This is because palm fruits are highly perishable and early use is recommended after harvest in order to prevent fruits from getting rotten. This implies that fruits irrespective of the quantity become unwholesome for consumption two weeks after harvest if not used. Fruits vendors are therefore expected to deliver fruits on time. Aside the perishable nature of palm fruits, the longest fruits stay before being processed the bad the taste and colour of the oil processed. According to processors, oil from fruits that stay longer than two weeks after harvest usually have bad scent and is therefore usually not used for consumption. However, such oils can be used for locally made soap. Though such oils are useful in the local soap industry, it commands a relatively lower price. Bad or partly rotten fruits is also paid less the half the price of fresh fruits. Fruits vendors are therefore faced with the challenged of ensuring that fruits gathered are delivered on time. As a way of meeting this challenged, processor arrange with palm oil trader to release their tracks to them to enable them transport fruits from far away villages. Nonetheless, a fee is always charged on every sack of fruits. According to processors, 20 pesewa is paid for each sack of fruits carried.

4.3.2 Contractual Arrangement in Getting Access to Fruits/Oil

One major activity that takes place within the palm oil processing chain is contracting. Contracting is a common phenomenon during the lean season. This is because during that period fruits are hard to get and also not sold on credit, unlike the peak season where fruits are in abundance, and can be bought on credit. Processors in group 1 disclose that informal agreements are made between a processor or a number of processors and a palm oil trader/buyer (wholesaler/retailer) in aid of fruits purchase for processing. Processed oil is then supplied to the buyer that made the agreement at the existing price. This as observed is a routine activity in group 1 as a way of ensuring regular access to palm fruit for processing. Processor conversely confirm to maintaining the same source for supply of fruits to enhance access even during the lean season when fruits are hard to come by. Palm oil traders advance money as credit to processors who in turn give out the credit received to intermediaries like fruit vendors (FV) who have taken sourcing of palm fruits for sale as a business to supply fruits. The credit is paid back using oil. According to processors, advancing credit received from oil buyers to fruit vendor is to get them (FV) committed to supplying all that they get from their search to processors concern. Without such arrangements FV have the option to sell to any one available with money and willing to buy. The initiative to establish contractual arrangement usually comes from the contractor, in this case the buyer seeking to improve the supply of quality products (palm oil) and to increase capacity utilization of specific assets. Processors are therefore able to predetermine the quantity of fruits that will be supplied to them for processing on regular basis and oil traders assured of regular supply of predetermined quantities of oil.

4.3.3 Reason for Contractual Arrangement

One might ask why palm oil traders, processors as well as fruits vendors engage in contractual arrangement. From the interviews conducted with processors, the increased need for palm oil resulted in a rise for more palm fruits propelling such arrangements. They recount how about three years ago, people use to bring them fruits to process before paying. Nevertheless the high or increased demands for palm oil resulted in a competition for access to more fruits. The seasonality nature of palm fruits also creates scarcity during the lean season making it necessary for contracting. Credit is therefore advanced to fruit vendors to entice them to supply all the fruits acquired to them. Since then till now if you need fruits you pay before you are supplied. Furthermore, palm oil traders reveal that because processors do not deal with only one customer at the processing site but a number of them, such informal arrangement are made to get the processors committed to supplying the required quantity requested. This arrangement enable processors to predetermine the quantity of fruits that will be supplied for processing on regular basis and oil traders assured of regular supply of predetermined quantities of oil.

4.4 Condition/ Criteria for Determining Price of Palm Oil

4.4.1 Price Determination

With regards to the study area, prices follow seasonal trends. That is peak season which is February-April where palm fruits harvested are in abundance and very cheap to buy, and the lean season which starts from July-December. During the lean season fruits are highly scarce and therefore difficult to come by. This scenario means a fluctuation of price for palm fruits over the season which directly affects the price of palm oil processed and sold in the market. This is because palm fruits are the main raw material used for processing palm oil. For instance from the interview, a processor from group 1 admitted that between February and July she paid between 8 and 10 Ghana Cedis (5-8 Euros) for a bag/sack (83kg) of palm fruits and received between 30- 35 Ghana Cedis (15-20 Euros) for a 62.5 litres jerrycan of oil. She also acknowledged that though price paid for palm fruits and palm oil fluctuates in response to the season, it is quite uniform across market centres in the district which was also observed during the time of the study. The nominal price which is the actual price you observe in the market is therefore generally uniform across processing sites irrespective of the location. Nonetheless in general, price of palm fruits and for that matter its oil changes on regular basis depending on the season and yield. It depicts a higher price during the lean season and a relatively lower price during the peak season indicating seasonality of price.

There is no laid down criterion for determining price however, price of palm oil is derived from the price of palm fruits. For instance, during the period of the research in October the price of a sack (83kg) of palm fruits was 25 Ghana Cedis thus a jerrycan (62.5 liters) of palm oil was sold at the processing site for 80 Ghana Cedis as 3 sacks of fruits process gives 1 jerrycan.



Photo 4: Sack of palm fruits and palm oil jerrycans

Source: field survey, 2010

This implies that an increase in the price of fruits will attract a corresponding increase in the price of oil processed. While processors base the price of their oil processed on price of palm fruits, farmers indicate that they derived the price of palm fruits from the price of palm oil sold at the market square/centre. If a jerry can of palm oil increases in the market the price of fruits will surely respond in the same direction. This was actually observed on three occasions during the research period. For example the price of a bag/sack of palm fruits was 25 Ghana Cedis in October 2010, and 80 Ghana Cedis for a jerrycan of oil. This however changed to 30 Ghana cedis per bag/sack of fruit and 100 Ghana Cedis for jerry can of palm oil before the end of November 2010. By the end of December 2010 the price per bag/sack of palm fruit was 45 Ghana Cedis with a jerry can of palm oil going for between 140 and 150 Ghana Cedis.

Again, group 2 processors belief that the method of processing influences price as buyers taste to tell the method used. However processors in group 1 refuted this observation admitting that taste does not tell anything about the method used neither does it influence price. According to group 1 you can only tell the variety of palm fruits used by examining the colour of the oil not the processing method. The Tenera ‘agric’ oil looks a little white whilst the Dura ‘local’ one is blacker. In conclusion, palm oil price is derived from the price of palm fruits and vice versa. Because of this price of palm oil fluctuates in relation to the quantity of fruits available in the market.

4.4.2 Where Price Come From

Price to some extent reflects public opinions base on value or quality of palm oil processed which is from the variety of palm fruits used for processing. The Dura variety which is referred to as ‘local’ receives a relatively lower price compared to the Tenera ‘Agric’ because of its high misocrap and oil content. Processors therefore pay less price for Dura fruits than Tenara. For example whereas the price of a bucket of Tenera is 5 Ghana Cedis, the same

quantity of Dura is between 2 Cedis 50 pesewa and 3 Cedis in October, 2010. This directly affects the price of the processed oil.

Furthermore, palm oil price is identified to be an external feature confronting processors in the palm oil industry. This is because palm oil traders by virtue of their social network and the power of their associations are able to influence price. They are also in a better position to determine price because credit given to processors in advance in accessing palm fruits comes from them. Additionally, palm oil traders sometimes store oil bought from processor for about three months before selling in order to influence prices at the retail point. However, this does not significantly influence the price paid to processors at processing site since payments might have been made earlier.

Moreover, forces structuring market exchange like informal institutional regulation influence price of palm oil. In the palm oil industry, wholesaler and retailers association are led by market queen-mothers. They control the affairs in market centres. They therefore act as cartel and are able to influence price. This they do by not buying from any processors who decides to increase price slightly maybe due to additional cost incurred without their concern. So that if a processor refuses to sell at a price agreed upon by traders he/she stands the risk of not getting any trader to buy the oil. Based on this, it can be said that processors are price takers. This indicates the influence of social and institutional forces of traders associations or cooperation in price setting.

Price of palm oil also comes from considerations paid to the cost of palm oil sold at major market centres, cost of transportation and other service. Palm oil traders after considering all these, set a price to recover total cost and make a margin of profit. With that of price paid to processors consideration is only given to the cost of the palm fruits used in processing to determine price even though other cost from firewood and labour are equally incurred in production. This clearly shows the influence and power of palm oil traders in determining price.

To conclude, though price of palm oil is seasonally determined and the price of palm oil derived from the price of palm fruits, based on interviews and observations prices result to a large extent from forces structuring market fields like trade associations and social networks. This does not imply that supply and demand has no influence in price; however it is shaped by the social and political forces operating in the palm oil market.

4.4.3 Market/Price Information

Processed oil is sold at processing site or at home. As a result market traders will always travel to these areas to buy oil. According to processors selling at processing site reduces the difficulties faced in taking oil to the market and having to transport it back when it is not bought. Knowledge of existing market price is therefore useful in determining the price to ask for at the processing site. The question one would ask is therefore how information on

existing market price of palm oil is obtained when processors only sell their oil at processing site.

Processors acknowledge that one way by which they obtain price information is from major market centers in the districts, specifically Asamenkese and Adeiso markets. Information from group interviews indicates that processors move to market centers and pretend to want to buy oil from traders in order to obtain the market price. Others also simply ask retailers they are familiar with selling in the market centre for information on existing market price and base on that to price the oil sold at the processing site. For instance a processor from group 2 made known that she has a friend who sells pal oil at Adeiso market centre. So any time she visits the market she goes to her for information on market price. Some processors also claim that colleague processors at different locations and palm oil traders inform them. Majority could however not tell specifically how they get the information, but are very certain that it does not take up to a day before they hear of price changes if it occurs. According to a male processor from Sukrong Awamfi, information on prices spreads like petrol poured on the ground. It is therefore not difficult to obtain such information. However, it is important to note that price of palm oil sold at the processing site is slightly below the price of the same quantity sold in the market center.

4.5 Relationship of processor to each other and to immediate buyers

4.5.1 Selection of Buyers

Customer selection and retention is important and adopted in the palm oil industry. Processors of palm oil reserve the sole power and free will to select or identify buyers they wish to deal with in their chain of business. The power to select which buyer to deal with is due to the increase demand for palm oil, creating competition among buyers to have control over processing sites.

While some processors select and retain buyers as customers others do not necessarily care the one they sell their oil to. Buyers selected as customers come from all parts of the country and travel to processing sites to buy palm oil. For example some come from Accra, Kasoa and Ashiaman to buy every Monday and Thursday. Others also come all the way from neighboring countries like Togo to buy. Several reasons are assigned for the selection and retention of customers. According to McGahan and Ghemawat (1994), long-term customers will tolerate a higher price from a company with a proven record of service even if its products are objectively the same as a rival's. However, within the palm oil industry, the selection and retention of a buyer as a customer is based on the relation between the processor and the buyer. This is based on the social networks from which they both belong to which include coming from the same community/village or merely through the bond of friendship. To processors, it is better to sell to customers who come from the same village with you. Dealing with customers from your village or community reduces the risk of none-

payment if oil is sold on credit. This is because their siblings live there and therefore cannot run away with your money like it happens sometimes.

According to a processor in Group 2, “We know their families, where they sit to sell in the market and even where they stay in Accra, that case you know even if all your money is not paid you can trace the person for your money”. Maintaining a customer is also observed to guarantee processors regular market all year round. Trust is built after dealing with a particular buyer for some time which helps provide market at a relatively better price for processed oil during the peak season when processors find it difficult selling their oil. On the contrary processors without customers assert that, they prefer not to maintain regular customer because there is so much anxiety with having to wait days payments of oil supplied on credit. To them is a relief from stress associated with waiting anxiously for payment of oil which at times does not come when you need it.

4.5.2 Criteria for Selecting and Maintaining Buyers

With regards to the criteria processors used in identifying customers, interviews indicate that it is based on commitment on the part of the buyer to make payment regularly when oil is supplied. It also stems from processors acquaintance with oil palm traders as well as traders staying and buying from them irrespective of the season and price. All processors admit that early and regular payment of oil supplied on credit is very important in maintaining customer relationship. While 13 processors maintain regular customers based on commitment to payment, 12 processors maintain relationship with buyers’ base on the fact that they are acquainted with them. The remaining 3 interviewed sell to no specific customer but to any person with money ready to buy. All processors in group 1 sell to any of the three retailers who buy from their group. But the quantity assigned to any of the buyers depends on the local arrangement between the processor in question and the buyer. 10 processors in group two maintain buyers they know or come from the same village with as customers while the remaining 3 who do not actually have specific customers deal with any body coming to the village to buy fruits.

4.6 Marketing Channels

In the study area, two types of marketing channels are identified. One channel exists between processor and retailer, where processors sell the oil processed directly to retailers and they intend sell to consumers in the market. The other involves processor to wholesale to retailer and then to consumer.

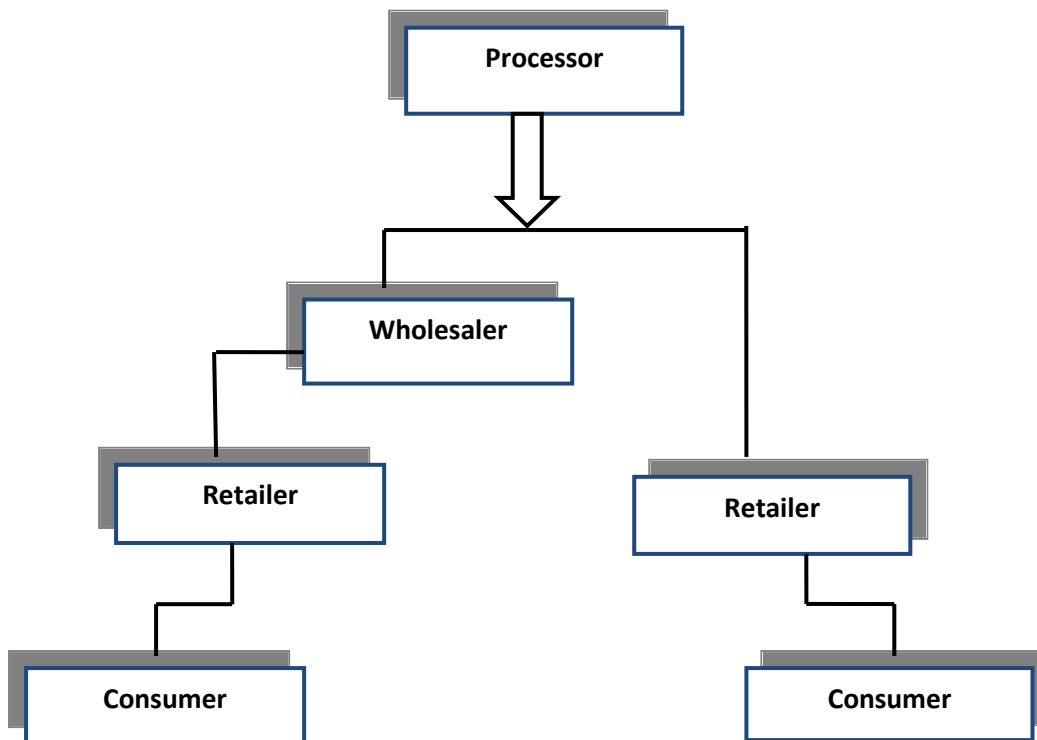


Figure 4: Marketing Channels of palm oil

Source: Data analysis, 2011.

Marketing of palm oil is generally carried out individually by processors to recognised customers (wholesalers/retailers) at processing site based on different condition. However, price is the same at every processing site irrespective of whom you are buying from. Processors prefer to sell their oil at processing site because according to them it is a relief from incurring extra cost like transportation and payment of market tolls in an attempt to sell in the market, when in fact they might have been carrying just a little quantity of oil. This obviously indicates how expensive it is for a processor to sell a small quantity of what is processed in the market since extra cost will be borne by the processor, unlike the buyers who purchase from a number of processors before transporting to the market. Group 1 processors were identified to have specific customers or buyers they sell their oil to. Two of these buyers, are wholesalers, who buy directly from processors and sell to retailers in Asamankese and Suhum markets respectively. These retailers then in turn sell to consumers. The third buyer is a retailer who buys oil directly from processors and sells in bits at Korle bu market centre in Accra. These identified traders or buyers go into various contractual agreements with processors for regular supply of palm oil on regular basis. In contrast to group 2, while some processors had specific buyers or customers they deal with and flows in a channel like indicated above, others don't and therefore sell to anybody with money ready to buy. Processors within this group therefore do not engage in any contractual arrangements with

buyers or customers. They reserve the power and choice of when and whom to sell their processed oil to.

4.7 Institutional mechanism in the Palm Oil Industry

4.7.1 Market Queen-mothers and their role in the palm oil industry

Institutions to a large extent determine the means that people have to productive resources and can directly influence people's access to natural resources. The food markets in developing countries are generally controlled and dominated by independent operators who are mostly women. The women control the market through Queen Mothers who are leaders of particular sections of the market such as the yam or tomato. Wholesalers and retailers form associations of sellers and always appoint a market queen to be in charge of the association and to represent their interest. Each of these associations which is coordinated and controlled by women leaders known as 'Queen Mothers' act as a cartel and place restrictions on entering the market (Adimabuno 2010). These market queens oversee and make decisions on behalf of the group. There is also a "supreme" leader regarded as the highest authority for the entire market who works through the commodity leaders. The yam queen mother has over the years, held the position of overall market queen. All other commodity queens therefore owe allegiance to the supreme queen mother of the market (King and Oppong, n.d)

Institutional mechanisms are identified to exist in the palm oil industry and aid people's access to palm fruits for processing, palm oil as well as market. It is observed during the field research that there exist market queens in the palm oil business. Speaking to an acting palm oil market queen in Adieso market centre, every market center exist a market queen for palm oil. These small market centre queen mothers are answerable to an overall palm oil queen who is currently the Adieso queen mother. However due to old age she is inactive. As a result she is asked to step in for her, even though she is not enstool as the official queen mother for Adieso market. When asked why she has not been conferred yet, she replied that enstoolment of a new Queen mother can only be done after the death of the present queen-mother, since the position is held till death.



Photo 5: Acting palm oil queen mother at Adieso market centre (middle)

Source: field survey, 2010

Traditionally, the market queen mothers have a great deal of control over the markets. There are no formal qualifications for a person to be a market queen in charge of foodstuffs, such as yams. The only condition is that the person should be a seller with qualities such as years of experience in the trade, ability to resolve disputes, good social relations with the members, skills in external negotiations and should have worked for a long period at the market. The person should also have first been an assistant to a market queen to acquire the necessary skills for the job to qualify.

Market queens are elected by the traders but the traditional authorities exercise great influence, having the final say in who is elected. Presently, an association now has the right to elect its own queen mother. These market queens are in charge of specific commodities like yam, tomatoes and palm oil in the market. They represent specific commodities sellers at every meeting that may concern them and also assist the metropolitan officials in collecting daily taxes, settle disputes as well as assist new members to get space to sell. The queen mother for palm oil was elected by the palm oil traders association. All organizational work is initiated from the market queen mothers. They play protective roles in the markets as they ensure the welfare of members. In short, they are basically to see to the smooth running of the business, serve as the mouthpiece and a liaison between the association, the government and the traditional house.

When asked what role she plays as an acting market queen for palm oil, she mentioned that she is to see to the overall benefits of the business and aid processor have access to market any time they bring oil to the market to sell. As to how that is arranged, the acting queen mother said that, any processor who brings oil to the market can't sell directly to consumers but must pass through retailers in the market to sell. She arranges for the processor to sell the palm oil to a retailer in the market at a price a little lower than the prevailing market price irrespective of the transportation cost, they then in turn sell to consumers or customers at the existing

market price. However retailers have the right to sell out oil that they brought to the market before engaging in selling what is arranged for them by the market queen. Payment is made only after the oil is sold out. This was however not surprising since the power of cooperative action by such associations is a remarkable feature of West African trade (Adimabuno 2010). By virtue of their strong associations, traders are able to manipulate other players to their advantage. In most instances, deliberate actions are taken by other market players to control the entry and supply of agricultural commodities to markets.

To sum up, every market centre in Ghana has a market queen who is generally elected by associations of traders with the consent of traditional authorities. Though no formal qualification is required for this position, experience in the field of work is relevant. These selected market queens have great control over the markets and represent the interest of specific commodities sellers or traders at meetings that may concern them, engage in organisational work and ensure the overall welfare of members. This clearly implies that cooperative action has the power to influence decisions in relation to price. Actions can thus be taken by market players to exercise control over the market and price.

4.8 Conclusion

Processors of palm oil are identified as a group based on their spatial arrangement. These groups operate or undertake their processing activities at the same location, thus one spatial or common geographical location of processing. They individually decide where to buy fruits from, the quantity of palm fruits to process per week and who to sell their processed oil to. They also undertake processing activities individually with family labour or hired labour. However, they identify themselves as a group based on some common activities. Varying ways are adopted in aid of access to palm fruits for processing. Whereas some processors use palm fruits from their farms, others either buy from farmers or intermediaries (fruit vendors). However access to required quantities for processing is done by using two or three methods. But the quantity source depends on the season of which varying informal contractual arrangements are made in aid of access to fruits. Processors prefer to sell their oil at processing site because they will incur additional cost in carrying just a small quantity of processed oil to the market. Selection of buyers depends on commitment on the part of the buyer to making payment on time when oil is supplied on credit. Also the social network in which a buyer finds him/herself can influence selection and retention. However, processors have the freedom and power to select or identify buyers they wish to sell to.

There are no laid down criteria for how price is determined. Nonetheless, the price of palm oil is highly derived from the price of the fruits bought for processing and vice versa. Information on pricing is obtained by visiting major market centers and asking palm oil traders. Informal institutional arrangements like palm oil market queens are conferred to represent the interest of palm oil traders. They are in charge of the palm oil business in market centres and oversee the marketing activities of palm oil. This is characteristic of every market centre.

CHAPTER FIVE: ANALYSIS AND DISCUSSION

5.1 Discussion of Methods

Methods adopted for data collection are fundamental to the reliability and validation of any research finding. This thesis research adopted methods such as field observations, focus group discussion and individual interviews. There were however, some limitations with the use of some of the methods enumerated above. Notable among them were resources (time). Due to respondents' nature of activities at processing site, it is sometimes very difficult to engage a processor in an interaction. They are always very busy and not at a stable position at the processing site. This poses difficulty in gathering information as it took two or more days to gather information that need not take a day to gather. This in a way delayed the progress as I turn to spend more days at a processing site than initially planned. For instance, in conducting the individual interviews with processors, it was impossible to use a day to gather all relevant information on a particular processor. It took two days or more to complete an interview with one person. This was quite frustrating as it meant a difficulty to have the expected information ready before leaving.

Again with only three months in the field, it was impossible to meet with all processors in selected study sites as some were out of business at that time. As indicated earlier, processing of palm oil is done all year round, however it is more prominent during the peak season (February- April) when palm fruits are in abundance and cheaper to buy than in the lean season (July-December) when access is quite competitive with a relatively higher price of palm fruits for processing. This scenario causes some processors to go out of business during the lean season. The three months field research therefore only gave the researcher the opportunity to observe and document happenings in the lean season. Information on activities during the peak season was however based on narratives, interviews and discussions. This to some extent decreased the reliability and validity of findings since there was no opportunity of cross checking that information.

Furthermore, the use of observation was very useful as it gave insight into happening in the industry. It also offers the opportunity to establish a cordial relationship for an understanding of participants. However, the use of this method posed a challenged as respondents' activities were not restricted to one specific location. Processors sometimes had to leave the site to collect palm fruits from farmers and fruits vendors who usually call when they gather enough fruits for collection. These places are usually not easily accessible by car and the means of transport processors use are usually with only two seats for the driver and one passenger. Researcher could therefore not document what happens over there but only depend on what they say transpired there. This is because access such places with processors was not possible.

The effect of secret investigative journalism in the country equally pose a serious challenged in getting people respond to questions from people they don't know at a close level. The time of the field research coincided with a secret investigation publication on illegal activities and corrupt acts by some government organizations and official. This revelation therefore scared

people away from having to accept for people to study their activities for whatever reason it may be for. And because the general public did not know or could not tell how these investigations are carried out and which organization is the next target, they prefer not to risk speaking with aliens. We were therefore feared to either be part of that secret investigating team or a new one.

Despite the identifiable constraints, triangulation of data methods and sources was adopted by the researcher to offset the limitations on the reliability and validity of the data. For the purpose of the reliability and validity of data for this work, different methods such as interviews using guided questionnaire, observation and focus group discussion were used concurrently. Aside the empirical data source obtained, secondary data was also relied upon from the West Akim District. Also efforts were made right from the beginning to get respondents understand what the information they provided would be used for while at the same time guaranteeing them confidentiality. This was very necessary as some respondents initially thought we were carrying out some underground investigations. This made most of them feel comfortable during the whole exercise and availed the information required.

5.2 Processors Access to Fruits and Market

As indicated in section 4.2, it is evident that access to palm fruits for processing is highly seasonal and competitive. The general principle that access depended on social identity and purchasing power to a large extent is paramount in the palm oil industry. Though processing of palm oil is all year round, the access to palm fruits for processing is highly seasonal. Varying channels and arrangements are therefore employed in getting access to palm fruits. Processors maintain the same source for supply of fruits. Maintaining the same source gets supplier of fruits committed to regularly supplying all they have to processors concerned. This also enhances access to regular supply of palm fruits even during the lean season when fruits are hard to come by. Because actors involved become comfortable dealing with each other due to the long term trust built over the years. This phenomenon was explained by Nahapiet and Ghosh (1996) cited in Tsai and Ghoshal (1998) as a structural dimension of social capital which allows social interaction of which the position of an actor's connections in a social network provides certain advantages. This mechanism is also applied by processors in having access to market for processed palm oil. Group processing creates economics of scale by giving traders the opportunity to have access to more palm oil at the same geographic location.

Results presented also revealed a dominant use of intermediaries (fruits vendors) as mode or channel of access to fruits for processing (57%). One reasons assigned for high use of intermediary like fruits vendors in accessing palm fruits is that, most processors do not come from villages that have large tracks of palm trees or plantation and as such have no direct contact with the farmers. Also it is quite easier, faster with less stress dealing with these intermediaries who will always remove the fruits from bunches and bags them before you are

asked to come for it. This reduces the time you would have invested in search and removal of fruits from bunches before processing.

Markets are important for the poor in the same way they are important for everyone and their effective functioning are good for all. The marketing of agricultural produce and for that matter palm oil could be described as highly complex and difficult. Though Thapa and Poudel, (2003), claim farmers take their produce to the local market centres and sell either to retailers or directly to consumers, it can be said based on results presented here that the marketing of palm oil by processors is not necessarily done at market centres. Because the processor incurs extra cost in an attempt to sell a small quantity of what is processed in the market when that is not considered when selling to traders. However, traders of palm oil purchase from a number of processors before transporting to the market. Aside this, institutional structures put in places by palm oil traders and palm oil queen mothers restrict processors from directly selling at market centres. Also congestion at market centres limits processors access to space in market centres to sell, but palm oil traders are given the right to space at market centres. This is always ensured and secured by representative of the various trade associations' market queens. Palm oil traders equally reserve the right to finish selling their oil before selling oil that is brought to the market centre by processors. Rational as they are, they refrain from taking oil to market centres to sell due to these hindrances.

Bennett (1988) claims that in today's competitive and increasingly global market place, managers' plan for product distribution as they plan their products. Decisions relating to the channels of distribution for a product or service are part of the strategic marketing plan of which the target market will have been specified along with market coverage, customer service and so on. It is therefore not surprising to find traders or buyers of palm oil and processors go into informal contractual arrangement as a way of getting required quantities of oil for customers at predetermined price. Processors in an attempt to meet the needs and demands of their customers also go into contracts with fruit vendors and farmers for guaranteed supply of palm fruits on regular bases for processing. This relates to the motivations assigned by Masakure and Henson (2005) for contracting as inspiring from market uncertainty, indirect benefits, income benefits, and intangible benefits.

The results indicate that having a regular customer helps to establish and build trust over a period of time. This in no doubt encourages buyers or palm oil traders to continue to deal with the same processor irrespective of the season. This is imperative because it enhances access to market during the peak season when oil is in abundance. Several reasons are assigned for building this social capital which even made some processors establish relationship with buyers for over 10 years. These include risk reduction. Dealing with customers you are acquainted with or who come from the same village with you according to processors reduces risk of none-payment if oil is sold on credit. Because it is practically impossible for a buyer who refuses to pay for oil supplied on credit to disappear with all the siblings from the village. This however does not imply that all processors have specific customers. Some processors express a relief from stress associated with waiting anxiously for payment of oil supplied on credit which some times take too long. Conversely, dealing with

people you know at a very close level may compel you to accept conditions you might not have accepted under a different circumstance.

5.3 Mechanisms Facilitating Access to Fruits and Palm Oil

Contracting, which has become very important and pronounced in the palm oil industry of Ghana, can be regarded as a form of institutional arrangement that directs the way economic actors cooperate or compete. This fact is driven by scarcity, competition and consumer demand for palm fruits and palm oil. It is evident that buyers or traders in palm oil provide assistance in the form of credit to processors as pre-payment for oil to be supplied. This assistance is further advanced to fruits vendors by processors to source and supply fruits on a regular basis. This gesture also trickles down to the farmer. This arrangement indicates the intermediary model of Eaton and Shepherd (2001), which shows that there are at least three parties to a contract arrangement; a palm oil trader informally contracting a processor who then contracts with a fruit vendor and number of farmers for the supply of fruits. They however emphasized the success of these informal initiatives as dependant on the availability of supporting services. In the palm oil industry social ties and the bond of friendship used as a basis for selection and retention of buyers as customers can be seen as supporting mechanisms for enhancing compliance. This form of informal arrangement also relates to Minot (2007) definition of contract farming that indicates production carried out according to a prior agreement. The arrangement is meant to enable processors buy fruits for processing and also get them committed to supplying required quantities of oil demanded by traders. It also gets fruits vendors committed to fulfilling required demands. Without such arrangements opportunistic behaviours may set in. Farmers' opportunity to regular market for fruits harvested is assured with a relatively better price.

Uzzi (1996) cited in Tsai and Ghoshal (1998) also asserted that, assets that are embedded in relationships, such as trust, act as a governance mechanism. Engaging in contractual arrangement with specific people is however not out of the blue but based on commitment and trust built over years of working together. It also stems from the fact that these arrangements are made between or among people that are familiar with each other or know each other at a very close level. Though contractual arrangement aids processors access to regular supply of fruits for processing on a regular basis, it also assures traders of regular supply of predetermined palm oil quantities.

These arrangements however have adverse effects on the processors since oil has to be supplied to cover credit received. Quantities to be supplied are predetermined from the sacks of fruits that can be bought from the money advance by palm oil traders. It is known and expected that three sacks of fruits processed equal one jerrycan of palm oil. The quantity of oil to be supplied is therefore calculated based on existing market price of palm fruits. For instance a 500 Ghana Cedis credit advance is expected to buy 20 sacks of palm fruits at a cost of 25 Ghana Cedis each generating 8 jerrycans and some gallons of palm oil when processed. Also, if a processor is supplied with fruits that do not have much oil content like more Dura

variety than Tenera, or fruits from young plants that is known to have a relatively less oil content, the processor bears the loss in such circumstances. Another instance is when the price of fruits increases after money is collected. As indicated in the results, prices of fruits and oils are highly unstable during the lean season. Changes in the price of palm fruits could result into debt for the processor if not well negotiated with the trader who gave the money out.

5.4 Pricing and Price Determination in the Palm oil industry

Many economists maintained that prices are desirable planning instruments because the stimulus to obtain a profit maximization output is built right in if producers are rewarded in proportion to profits. In many instances, agricultural commodities in developing countries are characterised by pronounced seasonality which has an effect on price. According to Goodwin et al, agricultural products prices reflect seasonal production patterns by being at their lowest at peak production and highest at lean seasons (Goodwin et al., 2002). They further asserted that it is especially typical of perishable commodities which stay only a short time. It is of interest to know that palm fruits are highly perishable and reflects seasonal pattern of production. Traders in this industry therefore turn to adjust prices as the volume supply alters. Because of this, prices of palm fruits and for that matter palm oil fluctuate in relation to the quantity of fruits available in the market which is directly influenced by the season.

Results presented indicate that price of palm oil is high during the lean season where access to palm fruits are scarce and low during the peak season because of fruits abundance. This can be attributed to the fact that harvested palm fruits cannot be stored for over two weeks without getting rotten due to the lack of mechanical storage facilities. It is therefore important to acknowledge that though the palm oil industry shows limited price variability in spatially separated markets, price fluctuates as supply of fruits increases or decreases with respect to season of the year.

According to Martin (1974) a qualitative benchmark for pricing is set by examining similar purchases made by customers within a target market. Pricing based upon similar product types raises many difficulties. However it is appropriate that in a situation with many independent producers of identical commodity like that of palm oil, a single uniform price is named or exists. It is imperative therefore for traders or buyers of palm oil to pay the same price for a specific quantity of oil no matter what is involved or where it is coming from. Results presented indicate that palm oil price is uniform at different market centres. This system has the advantage of being relatively easy to accomplish and provide guidelines to price setting. However, the single uniform price that is name for palm oil is largely controlled and manipulated by palm oil traders. Wholesalers and retailers by the power of cooperation through associations are able to control and influence price of palm oil. This indicates the influence of social and institutional forces of traders associations in price setting which follows the assertion made by Durkheim that prices can be understood with reference to social institutions and networks (Beckert 2001, 2002 cited in Beckert, 2011). Processors who travel

to relatively distance places in search of palm fruits or to transport palm fruits are at a disadvantage since other cost are not factor in when setting price. This discourages processors from travelling far in search of palm fruits when what is within their reach is exhausted or when fruits are scarce. Consequently, it results in unemployment of most processors at certain periods of time.

Smith (2003) affirmed the identification and application of strategic pricing that involves determining the appropriate price level or price mechanism. This has to do with the steps used to set prices to the appropriate level. However price of palm oil is influence by forces structuring market exchange like trade associations led by market queen-mothers. Palm oil traders by virtue of their associations act as cartel and therefore are able to influence price. Price is therefore an external feature confronting processor as they have limited bargaining power when it comes to price of palm oil. Palm oil processor are therefore more like price takers as results indicate their limited influence as price is base on what palm oil traders deem just.

Furthermore, the availability and dissemination of price information varies by country, as does the access to time series data. Price information is generally disseminated through various means like the radio broadcasts, phone calls and SMS. Results presented indicate that information on price is commonly obtained from the market centre and from traders of palm oil by simply asking. Mobile phones are also used to disseminate price information. This indicates to availability and easy accessibility of price information by both palm oil traders and processors which also confirms a processors assertion that “information about price flows like petrol or kerosene poured on the flour”. Processors based on this to negotiate price paid at processing site even though the final decision come from palm oil traders. However, it is relevant to note that price of palm oil at processing site is usually less than price of oil sole at market centres as traders set price to recover their total cost and make profit.

In the net shell, though market economies and economic price theory premise that prices are the result of supply and demand, in the palm oil industry, price is shaped by the social and institutional forces or setting operating in the market field. Price results from trade association and their power of cooperation. This does not deny that supply and demand play a role in price changes, however supply and demand are shaped by the social and political forces operating in market fields.

5.4 Institutional Arrangement and Benefits

Institutions are diverse, operate on multiple-scale levels and undergo constant changes Leach et al. (1999). Influence of institutions is two-fold. First, to a large extent they determine means that people have. Second, they directly influence people’s access to natural resources. Results presented indicate evidence of institutional mechanisms in having access to productive resources. Institutional arrangements greatly influence processors access to regular supply of palm fruits and access to ready market for processed oil. It also assures

palm oil traders access to predetermined quantities of oil. Accordingly Van Huylenbroeck and Vahaeghe (2001) showed this by emphasizing the importance of institution in linking producers to market.

However it is interesting to know that taking palm oil to market square by processors to sell directly to consumers is very difficult. This is because the institutional mechanisms put in place at market centres do not allow anybody to walk into the market to sell. Trade associations led by Market queens control operations in market centres. Access to market centres by processors are therefore limited. This compiles processors to sell to retailers even in market centres at a price less than the prevailing market price. This situation poses a challenge to processors having alternative means to selling their processed oil aside through palm oil traders. Processors therefore have no incentive taking oil to market centres. Apparently the assertion by Pokharell and Thapa (2007) that price received by producers is non-remunerative in the absence of institutionalized services is not wholly applicable in this situation. Results indicate a deviation from this reasoning or perception of what institutions are to provide by depicting dominance of trade associations in palm oil industry. This creates a disincentive for processors to want to take oil to market centres even with better pricing since some institutional mechanism does not provide remunerative benefits. Rational processors thus refrain from transporting palm oil to market centres to sell but sell everything at processing site as engaging in search arrangements only give higher benefits to palm oil traders. This trend confirms the theory of economic rationality as processor will choose to engage in institutional arrangement that is efficient in minimising costs and maximising net benefits.

5.6 Conclusion

To conclude, access to quantities of palm fruits is seasonally determined. As a result palm oil processors rely on contracting in accessing palm fruits. In order to get supplier of fruits committed to regularly supplying palm fruits, processors generally maintain the same source for supply of fruits. Fruits vendors are mostly used in getting access to regular supply of palm fruits. This channel is to processors more convenient with less stress. Additionally, due to scarcity creating competition in accessing palm fruits during certain seasons of the year, informal contractual arrangements are made in accessing palm fruits and palm oil regularly.

With that of marketing channel for palm oil, regular oil traders are maintained to reduce the risk associated with having access to market during the peak season when palm oil is in abundance. Social network and social ties play important roles in the selection and retention of customers. Again, institutional structures put in place by palm oil traders at market centers does not allow processors to sell directly to consumers. Processors are therefore not motivated to send oil to market centers but sell all at processing site even though prices at market centers are comparatively higher.

Seasonality of palm fruits influences price of palm oil and vice versa. Traders turn to adjust prices as volumes supply alter due to changes in the supply of palm fruits. Though prices are the result of demand and supply according to economic price theory, the power of trade

associations and cooperation to some external influences and determine price in the palm oil industry. This indicates that demand and supply do not wholly influence price but are shaped by social and political forces.

CHAPTER SIX CONCLUSION AND RECOMMENDATIONS

This section outlines the conclusion and recommendation of the research. Based on the research findings, conclusions are drawn on the research questions. The discussions coupled with the drawn conclusions are the basis for the recommendations made. This includes recommendations for future research and suggestions for policies and projects.

6.1 Conclusion

This thesis research work adopted a case study approach. Base on concepts reviewed a conceptual framework was developed for analysis and discussion. The study revealed that palm oil processing is one of the major economic activities for women in the Eastern Region and contributes significantly to their livelihood.

With regards to the first research question; *what procedures are followed or how do processors have access to raw materials (palm fruits) for processing?* Even though the abundance of palm fruits is seasonally determined, a wide range of channels are followed or employed in getting access to palm fruits for the processing of palm oil. These could be grouped into: use of own oil palm plantation fruits; buying directly from farmers; and buying from intermediaries (fruit vendors). Most processors combined at least two or more of these channels in having access to quantities required for palm oil processing. However, the use of fruit vendors was identified to be more predominant. Regular access to palm fruits for processing would have been impossible in the absent of fruit vendors.

For the second question; *what procedures or institutional mechanisms are followed by palm oil traders in accessing palm oil?* The results of the study indicate that palm oil traders and processors engaged in contractual arrangement as a means of having access to palm oil. This fact is driven by scarcity and competition over palm fruits and palm oil. Traders provide assistance in the form of credit to processors as pre-payment for oil to be supplied. Engaging in contractual arrangement is meant to enable processors buy fruits for processing and also get them committed to supplying required quantities of oil demanded by traders concern. Though contractual arrangement aids processors access to regular supply of fruits for processing, it also assures traders of regular supply of predetermined palm oil quantities. However it is important to note that, this arrangement put processors at a disadvantage when it comes to price negotiation because their source of capital is from palm oil traders.

Following the next question; *What criteria are used in determining/setting palm oil price?*, it is evident that palm fruits that are used for the processing of palm oil reflect a seasonal pattern of production or supply. In general, the price of palm oil is derived from the price paid for palm fruits and vice versa. As a result the price of palm oil is adjusted according to the volumes of palm fruits in the market. It shows a high price during the lean season where access to palm fruits are scarce and competitive and low during the peak season due to the abundance of palm fruits. Additionally, palm oil price to some extent is an external feature

confronting palm oil processors. This is because palm oil traders by virtue of their social network and trade association are able to influence price to their advantage to a large extent determine. This is because the price paid to processors is only base the cost of the palm fruits used in processing even though other resources like firewood and labour are equally employed in production.

With regards to the question; *how do processors relate to each other and to certain types of buyers?* Processors generally identify themselves as a group due to their common geographic location for processing and the method used in processing. While others assist each other during processing, some processing groups carry out processing activities individually though identify themselves as a group. It can also be concluded that processors generally base on social ties and social network for the select buyers. This is to reduce the risk associated with none payment of palm oil supplied on credit. It is also important to note that group processing creates economics of scale by traders having access to large quantities of oil at the same place.

How do processors come to deal with specific customers and why? The results of the study indicate the importance of social ties in customer selection and retention. It could be concluded based on research findings that, palm oil processors deal with customers they know at a very close level. This is usually built over a period of time base on commitment to repayment on time and trust. This is because processors prefer to deal with buyers they are familiar with or come from the same village with as a way of reducing the risks associated with the industry.

Which institutions exist in the palm oil industry and what role do they play? It is evident that informal institutional arrangements like contracting and market queen mothers exist and play a key role in the palm oil industry. Despite the fact that palm oil traders through market queens do not allow processors to easily access market centers, the use of contracting enable processors access palm fruits and guarantee them ready market of processed oil. It can therefore be concluded that informal contractual arrangements aids processors access to regular supply of palm fruits and also gives processors assurance to ready market. This in a way motivates processors to stay in business and in the long-run may inform farmers to sustain production. This also assures palm oil traders access to regular supply of pre-determined quantities of palm oil.

To sum up, processors employ various means in have access to palm fruits for the processing of palm oil. They also engage in business with people they are familiar with or have close contact with. The general notion is that price of palm oil is derived from the price of palm fruits, however the price of palm fruits shows a seasonal pattern depicting a higher price during the lean season and a lower price during the peak season. It is equally important to note that palm oil traders by virtue of their cooperative network are able to determine and influence price to their benefit. Institutional arrangement like informal contracting equally play an important role in influencing processors access to regular supply of palm fruits and also guarantee palm oil traders access to regular supply of palm oil.

6.2 Recommendations

Though tedious, stakeholders in the palm oil business are generally satisfied. This is because it is a source of livelihood for many people (especially women) in the West Akim District and a major women's economic activity that supports household income.

Base on the initiatives undertaken by NGOs, civil societies and government to boost the oil palm industry, to enhance the benefit of the palm oil in Ghana, the government of Ghana could collaborate with donor partners to develop or construct storage facilities for palm fruits. Storage facilities could help improve processors access to palm fruits all year round. This will keep the fruits from rotting since it does not stay long than 2 weeks after harvesting. Having a storage facility for both palm fruits and palm oil could also help regularize/stabilize prices if well managed.

Improving market and institutional structures in market centers could allow easy access to market centers by processors which intend could improve the benefit derived from the palm oil industry by processors. Most resources are sold at the local market and since better price is paid at market centers, efforts should be made by stakeholders in expanding market available to enable processors have alternative means of selling processed oil.

Also government should be involved in setting the price of palm fruits and oil. According to processors, if the government gets involved in regulating the price of palm oil the power of palm oil traders will be reduce as a premium price could be set and regulated by the government. This is because processors think they are being exploited by palm oil traders. They therefore recommend a premium price to be set every year for palm oil like is done for cocoa. The usefulness of this premium price goes beyond improving profits for processors but may inform farmers to take initiatives to conserve oil palm varieties. This in the long-run could enhance biological diversity conservation since research shows palm trees as being good for biodiversity conservation.

Further research investigation on price setting mechanisms of palm oil and palm fruits should be conducted. This in a way could help the government and stakeholders in this industry take initiatives in safeguarding and enhancing the price setting.

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Appendices

Appendix A: Interview Guide/check list; Retailers/ Sellers

Demographic information

1. Name..... Address.....
2. Age..... Gender.....
3. Marital status.....
4. What is your level of education?
5. Are you a farmer, processor or trader of palm oil?

Description of processing group/organisation

6. What is your income activity/organisation
 - A, Buyer b, Seller c, farmer
7. Where is the location of your business?
 - A, Kade b, Kwae
8. How long have you been in oil palm processing?
 - A, 1-3years, b, 3-above
9. Why did you select this profession?
10. Are you in an association?
11. Why did you form/joint this association?

Access to palm fruits

12. How do you obtain palm fruits for processing?
 - A, buy from farmer B, buy from the market C, farm the input yourself
13. Which palm fruits do you mostly use for processing? Why?
14. Are there any arrangements in aiding access to fruits?
 - A, financial support b, contract
15. Is there adequate supply of fruits all year round for processing?

Seller/farmer on price fixing

16. Which buyers do you deal with?
17. How do you select particular buyers? Why?
 - a, Regularity
 - b, trust,
 - c, price mode
 - d, other
18. How do you decide at what price to ask for/ what influences price?
19. What criteria are used in determining prices?
20. Are any grading and quality standards applied in determining pricing system?
 - a, colour
 - b, variety
 - c, others-specify
21. What criteria do consumers/buyers use in their choice of oil palm products?
 - a, price
 - b, taste
 - c, variety
 - d, others-specify
22. Do you face challenges in reaching a fair price?
23. Who are the most important buyers?
24. Are there buyers that offer more prices compared to others?
25. How do you gather information about market/price?
26. Are there advantages or limitations of the existing market structure? Why?
27. How can it be improved if there are limitations?

Marketing of palm oil; how farmers/processors market their products

28. How is marketing organised/ how are products sold by farmers/processors?
 - Visit by trader to farm
 - Selling in local market
 - distance market
 - Road side dwellers
 - Others (if any)
29. How do you as a farmer/processor interact with the immediate buyers?
30. Who comments more authority in this chain of production?
31. How will you describe the kind of market organisation that exists within this chain?
32. How does it influence output and price setting?

- 33. What volumes are carried on each trip to the market?
- 34. Is there opportunity for selling more products?
- 35. Are any grading and quality standards applied for determining price?
- 36. What can be done to improvement on existing strategies?

Institutions in palm oil processing

- 37. Which institutions/organizations are involved in oil palm production chain?
- 38. What role do they play in promoting oil palm processing and marketing in terms of access to raw materials, pricing and market?
- 39. Are there any institutional procedures in accessing raw materials?

Appendix B: Production information/data

Cost of production

Number of processors	Cost of sacks of fruits 25=1	Transport cost	Milling	Firewood	Haired labour	Salt	Water	Output in jerry can
1	1,075	26.00	8.60	6.00	15.00	3.00	-	14.3 =1144
2	300	8.00	2.40	4.00	3.00	1.00	-	4=320
3	300	8.40	2.40	4.50	-	2.00	-	4=320
4	125	4.00	1.00	1.00	-	50p	-	1.2gallons=100
5	150	4.00	1.20	3.00	-	50p	-	160
6	500	8.40p	4.00	9.00	-	3.00	-	560
7	325	5.00	2.60	4.00	-	2.00	-	4.2gallons=340
8	350	5.50p	2.80	4.00	-	2.00	-	400
9	350	4.00	2.80	4.00	-	1.50	-	400
10	1000	8.40	8.00	9.00	-	3.00	-	1070
11	85	-	0.60	1.00	-	0.50	-	90
12	350	6.00	2.80	6.00	-	3.00	-	400
13	200	8.00	1.60	3.00	3.00	1.00	-	180
14	75	-	3.50	2.00	2	1.00	-	90

15	100	-	3.00	2.00	-	50p	-	120
16	75	-	3.00	2.00	-	50p	-	90
17	100	3.00	.80	3.00	3.00	2.00	-	100
18	100	-	2.00	3.00	-	40p	-	110
19	75	-	3.00	2.00	-	50p	2.00	90
20	16	-	1.00	1.00	-	20p	-	20
21	650	18.00	6.00	4.00	6.00	2.00	3.00	720
22	225	7.00	1.80	3.00	3.00	1.00	2.00	212
23	75	-	3.00	2.00	-	50p	-	90
24	150	-	4.00	3.00	-	1.00	2.00	180
25	100	2.00	3.00	3.00	-	50p	-	140
26	500	10.00	8.00	15.00	5.00	2.00	5.00	610
27	50	-	2.00	1.00	-	20p	-	60
28	125	3.00	3.00	3.00	2.00	50p	-	150

Average kilograms for a sack = $781/10 = 78\text{kg}$

Bags	Kilograms
1	90
2	87
3	67
4	63
5	84
6	82
7	65
8	78

9	76
10	89
total	781