

**THE POLITICAL ECONOMY OF EXPORT CROPS IN GHANA: A
STUDY OF THE MANGO INDUSTRY**

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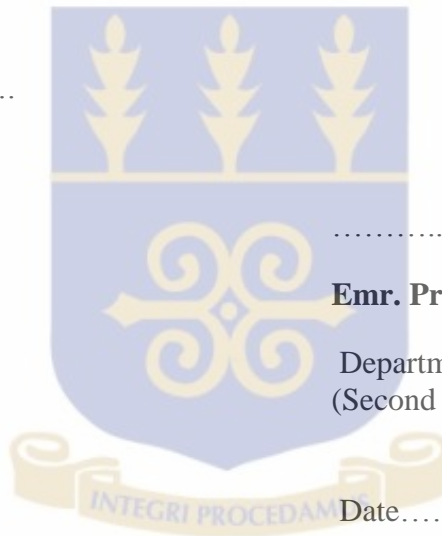
DECLARATION

This is to certify that this Thesis is the result of research undertaken by Paul Kofi Dzene YIDU towards the award of the PhD in the Department of Sociology, University of Ghana, Legon.

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DEDICATION

This study is dedicated to my daughters Dzinyuinam and Sedomia YIDU, my wife Theodora, my parents and siblings, and to the blessed memory of my mother's father; Yakawonya Afortude AHUZE.



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LIST OF ABBREVIATIONS

7DYP	Seven Year Development Plans
ACI	African Cashew Initiative
ADB	Agricultural Development Bank
ADC	Agricultural Development Corporation
ADM	Agro-Business Development Manager
ADRA	Adventist Development and Relief Agency
BAT	British American Tobacco
BCU	Biological Control Unit
BUSAC	Business Sector Advocacy Challenge
CBL	Cadbury Brothers Limited
CDR	Committee for the Defence of the Revolution
CMB	Cocoa Marketing Board
COMANGA	Ghana Commercial Mango Growers Association
CPP	Convention Peoples Party
CSIR	Centre for Scientific and Industrial Research
CSR	Corporate Social Responsibility
DCE	District Chief Executive
ECLA	Economic Commission of Latin America
EDIAF	Export Development Investment and Agricultural Fund
EDIF	Export Development and Investment Fund
EEC	Endogenous Export Crops
EPA	Environmental Protection Authority
EU	European Union
FAO	Food and Agricultural Organization
FASDEP	Food and Agricultural Sector Development Policy
FBO	Farmer Based Organization
GAP	Good Agricultural Practices
GEPA	Ghana Export Promotion Council
GIPC	Ghana Investment Promotion Council
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

GOPDC	Ghana Oil Palm Development Corporation
GSA	Ghana Standard Authority
GSS	Ghana Social Survey
GTP	Ghana Textile Printing
HPW	Hans Peter Werder
ICT	Information Communication Technology
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFI	International Financial Institutions
IMF	International Monetary Fund
IPPC	International Plant Protection Council
ITFC	Integrated Tamale Fruits Company
KG	Kindergarten
KINFA	Kintampo Farmers Association
KNUST	Kwame Nkrumah University of Science and Technology
KVIP	Kumasi Ventilated Improved Pipe
LDC	Least Developed Countries
LEF	Linking the Environment to Farming
LICC	Local Indigenous Control Corporation
MCA	Millennium Challenge Account
MiDA	Millennium Development Account
MNC	Multinational Corporation
MOAP	Market Oriented Agricultural Programme
MoFA	Ministry of Food and Agriculture
MoYS	Ministry of Youth and Sports
MRL	Minimal Residual Level
MSW	Mango Stone Weevil
NFMC	National Fruit-Fly Management Committee
NGO	Non-Governmental Organization
NLC	National liberation council
NRC	National Redemption Council
NTE	Non-Traditional Export
OFY	Operation Feed Yourself
OPFI	Operation Feed Your Industry

PBC	Produce Buying Company
PP	Progress Party
PPP	Public Private Partnership
PPRSD	Plant Protection and Regulatory Services Division
SAP	Structure Adjustment Plan
SAS	Special Agricultural Scheme
SFC	State Farms Corporation
SHAK	Smallholder Association of Kwae
SNFS	Shea Nut Farmers Societies
SOC	State Owned Corporation
TEC	Traditional Export Crops
TIPCEE	Trade and Investment Program for Competitive Export Economy
TOPP	Twifo Oil Palm Plantation
UAC	United African Company
UGFC	United Ghana Farmers' Council
USAID	United States Agency for International Development
UWRADEP	Upper West Regional Agricultural Development Project
VORADEP	Volta Regional Agricultural Development Project
W.H.O	World Health Organization

ABSTRACT

The Ghana government in 1984 embarked on an economic recovery program where the country's export crops were diversified and marketing liberalized. The diversification led to expansion in production and export of mango products. There has been a gap in ascertaining the impact of government agricultural policy on mango production and horticultural export crops promotion and agro-processing policy. Another gap is the limited literature on sociological contribution of commercial production of mango for export to agribusiness in Ghana. The current study which attempts to fill the vacuum examines the impact of government policy on allocation of productive resources to mango farmers, provision of extension services from multiple service sources as part of integration of mango farmers into the global market, impact of government policy on tax exemption on imported machinery, equipment and tax on profit of agro-processing companies in order to boost agro-processing industrialization in Ghana. The policies were assessed by looking at the social organization of mango production, investigation of integrating Ghanaian mango producers into the export market, and discussion of marketing mango under liberalized market and trade regime. As a study in political economy, the work examines Ghana's export promotion policies and agricultural policy since the Fourth Republic in 1992. It also assesses the contribution of the mango industry to income of farmers, development of industries and the effect of the state's agricultural policy on economic development. The study used dependency theory at the micro level of Ghana's economy focusing on a dependent development perspective in assessing the development of the mango industry in the country. The study districts are Yilo Krobo District and Kintampo North Municipal Assemblies in Eastern and Brong-Ahafo Regions in Ghana. Purposive and snowballing sampling techniques were used in getting the sample interviewees. The sample size is 43, (32 mango farmers and 11 key informants) from state institutions and donor partners. In-depth primary data was collected using unstructured interview schedule. Content analysis was used for analyzing government policies on allocation of productive resources and processes of land acquisition, extension services delivery, medium of integration of farmers and skills and technical assistance to farmers. Thematic analysis was used in analyzing marketing of mango under liberalized market regime. Interpretative analysis was used in analyzing the contribution of mango industry to the Ghanaian economy and impact of agricultural policy on economic development. The findings show that a total of 404 hectares of mango farms are cultivated by the 32 mango farmers. Mango farmers in Yilo Krobo cultivated 175.2 hectares while those in Kintampo North cultivated 228.8 hectares. There were sixteen large-scale and sixteen small-scale farmers, the former cultivated 353.2 hectares of mango farms while the latter cultivated 50.3 hectares. While there were no illiterates in the mango production, farmers with secondary education have dominated. The two highest land holding systems are leasehold and usufruct with outright purchase being the least. Land acquisition is more elaborate and safe in Kintampo North than in Yilo Krobo. Farmers find it difficult to secure land title certificate from the Land Title Registry as a result of role over-lap among the Survey Department, Lands Commission and Land Title Registry. About 24 mango farmers have had credit assistance, (17) from the state and (7) from donor partners. The state institution is Export Development Investment and Agricultural Fund (EDIAF) while donor partner funds came through agencies such as GIZ and USAID. The government policy on youth in agriculture has failed in the mango industry. Government is unable to honour the promise to supply subsidized fertilizer to farmers regularly. In 2013, government owed private fertilizer companies who distributed the input to the farmers. Farmers are integrated with skills and technical assistance through farmer-based organization. The state and donor

partners provided technical assistance and skill development training to farmers which enabled the farmers meet production and food safety standards and farm certification. Government constituted state agencies such as Ghana Standards Authority, Environmental Protection Authority and Plant Protection Regulatory Services Department to regulate agro-chemical use, control plant pest and diseases, and protect the health of the consumer through the determination of Minimum Residue Level of pesticides in the mango fruits. The marketing structure in the mango industry under the liberalized market and trade regime include a consortium of Agro-business and Development Managers at the regional or district levels and special marketing assistants in the local production communities. They negotiate and fix prices of mango fruits at the beginning of every harvesting season. There are three major fruit processing companies in Ghana. Mango farmers and fruit processing companies have experienced increased income and regular profit. Farmers are able to educate their children, build decent houses and provide food to their families. Blue Skies fruit processing company declared a corporate profit of £ 51.4 million in 2010. The company provides basic social amenities to the mango producing communities as their corporate social responsibility. Ghana's state policy on the promotion of export crops in general and horticultural crops in particular has led to dependent development in the mango industry since 1992. Three main policies accounted for this phenomenon. The investment policies are GIPC Act (Act 478) and Free Zone Enterprise Act (Act 504) and the agricultural policy is Food and Agricultural Sector Development Policy (FASDEP). The policy implications of the study are that continuity in state policy despite change in government and ideologies make it possible for foreign industrialists to have confidence in investing in the fresh fruit processing sector as part of foreign direct investment in the country. Mango production has added to the portfolio of crops that created social stratification in the savannah agro-ecological zones. Liberalised system of marketing does not favour farmers in remote rural communities compared to the egalitarian system of marketing found in cocoa and sheanut sectors in Ghana. The study confirms studies by McMichael (2012) and So (1990) which argue that where state policy is directed at public private partnership and with consistency in national development ideology in the development of specific sectors then socio-economic development takes off.

CHAPTER ONE

1.0 HISTORICAL BACKGROUND OF THE POLITICAL ECONOMY OF EXPORT CROPS IN GHANA

1.1 Introduction

The Commercial production of oil palm, ginger, coffee, rubber, kola, sheanut, and cocoa referred to as Traditional Export Crops (TECs) as an activity connecting Ghana to the global market pre-dated its statehood (Abaka 2005; Chalfin 2004:130; Amoah 1998; Asamoah 2001a; Anin 1991). This intercontinental trade in traditional export crops significantly integrated the then Gold Coast (now Ghana) into the international division of labour.

Ghana as a developing agrarian country produces raw materials to feed industries in developed countries such as Britain and other countries in Europe. In a like manner, developed countries also used raw materials imported from the developing countries to produce consumer goods, equipment, and machines that were used to further exploit the resources of the developing countries as espoused by development theorists (McMichael 2010; Pieterse 2010; Hoogvelt 1997; So 1990).

Ghana's economic contact with European Merchants and Arabs started around the 15th century (Abaka 2005; Chalfin 2004; Anin 1991; Amoah 1998). Anin (1991) argued that agricultural export trade in Ghana started from about 1480 to 1842 when European merchants had economic contact with Ghana (Gold Coast). During that era, the political economy of trade in agricultural export products was organized by indigenous Ghanaians. The indigenization of the political economy of trade in agricultural export crops in Ghana, a position maintained by Anin (1991) was corroborated in Abaka (2005).

Abaka (2005) stated that the Trans-Saharan and Atlantic trade in kola nut was organized and controlled by the chiefs and their subordinates in the Ashanti kingdom prior to the defeat of the Ashanti army in 1874 by the British. The chiefs mandated land for community farms, decreed the use of compulsory labour for land clearing, farm maintenance, harvesting and marketing.

Other empirical evidence attested to the fact that Ghanaian economic managers controlled the internal import and export trade between the people along the coast and those in the hinterland (Chalfin 2004; Kay 1992; Frimpog-Ansah 1991). Subsequently, these Ghanaian businessmen and women established trade contact with firms in the United Kingdom whom they consigned goods to. This marked the institutionalization of a merchant class in Ghana (then Gold Coast) who operated as neo- liberals (Anin 1991:34).

The potentials of oil palm, cocoa, sheanut, rubber, and coffee to the expansion of industries and their economic value to the economy of the developed countries gave momentum to colonial occupation of the land, the control of the people, and resource endowed agrarian communities.

Two major reasons for these occupations were: for the control and exploitation of raw materials in order to feed European processing factories and the supply of manufactured goods to the global citizens. The economic value of oil palm, cocoa, sheanut, coffee, and rubber to the indigenous business and elite classes served as a catalyst for their quest to exploit and manage the natural resource endowment of Ghana. These phenomena led to subsequent nationalist agitation for independence from colonial rule in order that the indigenous elite class would control, manage, and protect the resources of the state for the social and economic infrastructural development (Frimpong-Ansah 1991; Mikell 1989; Killick 1978).

This research is aimed at studying the political economy of Ghana's export crops sector and the nature of the policy environment that was created for a conducive and successful take-off of the mango industry. It is therefore imperative to turn to the views of some scholars on what constituted political economy.

Political economy is the “study of the deployment of scarce production resource and social institutional processes of how politicians and economists as a group in a nation make laws to regulate economic activities (such as allocation of scarce productive resource) for their own benefit and benefit of the large population” (Todaro 1982 c.f. Ezeanyika 2002:47). Marxist-Leninist perspective of Political economy studies social relation connecting people in the production process (Ezeanyika 2002). Political economy is defined by Goldthorpe (1975:251) as politics of ‘making major decision to regulate economic activities or life of a group of people. Frimpong-Ansah (1991) stated that political economy is:

the policy environment that is most conducive to economic development and stated that the modern concept of political economy is the influence of interest groups on the state in the way an economy is managed, the nature of the power of those controlling the state, and how it affects the welfare of the governed (Frimpong-Ansah 1991:45).

Ezeanyika's (2002) sees political economy as an interaction between politics and economics where political interest and national policy influence economic policies. He therefore concluded that political economy focuses on economic laws central to production and distribution of material wealth (Ezeanyika 2002:57). There is one theme that runs through the definitions of political economy given by several authors. That theme is the study of government economic policies governing production and distribution of resources and wealth within a state.

Through global trade relation and colonization, the political economy of export crops in most colonies was influenced by policies of colonial masters and multinational companies. This phenomenon according to Marxists is structured to benefit the colonial masters in developed countries but to the detriment of the colonies in the developing countries. The global trade in export crops made advanced countries rich because their technology and manufactured goods are expensive while developing countries are poor, under-developed and price of their raw materials are low. This economic relationship renders developing countries poor and dependent on the developed countries and this forms theoretical framework of this thesis.

This study defines political economy as the use of state political interest to influence policy decision on economic activities, the effects of this policy on economic activities and reaction of the citizenry to the policy. The political economy of export crops, the central theme of the study is focused on government or state policies that were formulated to regulate economic activities of export crops production, purchase, distribution, marketing and export and how the policies impact on actors in the export crops sector. Particularly in this study, the focus is on state policy on the horticultural export crop sector specifically the mango industry of Ghana. The study also took a cursory look at some agricultural policies in Ghana from pre-colonial, colonial, and immediate post-colonial era.

The study has profiled Ghana's export crops into 'endogenous' and 'exogenous'. The endogenous export crops are crops that grew in the wild in Ghana. The main ones are kola nut, rubber, shea nut, and oil palm (Abaka 2005; Chalfin 2004; Hill 1956). These crops were not introduced to the country from other regions of the world. Indeed their production was a forerunner to the cocoa economy of Ghana.

History is replete with how traditional institutions, colonial development agencies, and states used policy to influence the production, marketing, and distribution of export crops in Ghana. Abaka (2005) gave evidence of the use of traditional institutional policy to influence the production of endogenous export crops in Ghana. He stated that apart from gold and slaves, kola nut was the third commodity that generated the “State Wealth of the Asante Economy” (Abaka 2005:3/4). This was because the Asante traditional authorities supported the growth of the kola industry and levied tax on its exportation to the Arab world and Nigeria (Abaka 2005).

The exogenous export crops in Ghana were introduced by merchants, sailors, missionaries, adventurers, and soldiers from other parts of the world. Some of these crops are cocoa, cotton, coffee, banana, mango, and pineapple (La-Anyane 1963; Asamoah 1971). The early political economy of export crop in Ghana was organized as free market enterprise and there was competition. Later, some multinational companies introduced monopoly trade into the purchase of some export crops including cocoa and coffee. At the end of the Second World War, prices of export crops (specifically cocoa) in Ghana deteriorated and farmers were cheated and exploited by private expatriate merchants and their rural indigenous Ghanaians who were their representative exporters. To protect the interest of export crop producers, the colonial government in late 1930s and early 1940s established agricultural marketing board (AMB) specifically cocoa marketing board (CMB). One of the functions of the marketing board was to fix pre-season producer prices for export crops. This marked the direct state intervention in the production, purchase, distribution and export of export crops in Ghana. Post-colonial governments did not abandon the colonial legacy of marketing export crops through state marketing board. Successive post-colonial governments rather embolden the CMB through legislation with the intention of preserving the nation’s prestige and wealth. Governments also use monies accruing from

export crops to improve the living conditions of the producers and provide social amenities for the citizenry (Ezeanyika 2002:41-4). The rest of chapter looks at some agricultural policies on export crops in Ghana from colonial and immediate post-colonial era.

The main exogenous export crop in Ghana is cocoa. Its commercial production started in 1879 (Amoah 1998); Mikell 1998; Hill 1956). This was after experimental farms were set up as a colonial policy at Akropong-Akuapem by the Basel missionaries in the 1850s. Subsequently, the British colonial government established the Aburi Botanical Garden in the 1890s in the Akuapem State (Abaka 2005; Amoah 1998).

The commercial production of cocoa in Ghana was possible due to the fact that in the late 19th and early 20th centuries, the global cocoa industry encountered two major problems. These were “inadequate supply of raw cocoa for the manufacture of cocoa food products” and the aversion to the use of slave labour in the production of cocoa in Sao Tome and Principe (Amoah 1998:2).

It was reported that the production of cocoa was closely akin to the use of slave labour long after the abolishing of illegitimate trade in human being as a commodity. This situation further threatened the already precarious low supply of the cocoa commodity (Amoah 1998). This led to an intensive search for new tropical regions where cocoa production could thrive well by colonial administrators and merchants like Cadbury Brothers Limited (CBL). It was then that Ghana (then Gold Coast) was settled on as an alternative to Sao Tome and Principe for the cultivation and supply of cocoa beans (Amoah 1998).

Ghanaian farmers’ response to the demands and market prospects of the new crop led to the invasion of virgin forest in Ghana and intrusion of migrants into hitherto homogenous ethnic communities (Mikell 1998; Amanor 1994; Hill 1956).

Mango production belongs to the exogenous export crops economy. This research is aimed at exploring how political decisions have influenced the industry. This is premised on the fact that there was a paradigm shift in Ghana's export crop economy in the last two decades of the twentieth century (Chalfin 2004; Tweneboah 2000).

The early political economy of Ghana's cocoa industry from the 1890s to the end of World War II was managed and controlled by Cadbury Brothers Limited (CBL) with some Ghanaian collaborators (Amoah 1998). The involvement of CBL in the development of Gold Coast Cocoa Industry was occasioned by how to get adequate cocoa beans and where to produce the cocoa since major production areas in Latin America, West Indies, and Portuguese West Africa which included Sao Tome and Principe were accused of using slaves for cocoa production. Therefore, stakeholders in cocoa trade saw Ghana as a safe haven for the introduction of the cocoa industry.

From 1907 to 1909, CBL appointed agricultural instructors from some existing cocoa growing areas in the Diasporas to establish demonstration farms. To do that CBL purchased 14 acres of land at Mangoase at the cost of £100 from Nene Mate Kole, the paramount chief of the Krobos in the Eastern Region of Ghana (Amoah 1998:5). The company also appointed procurement officers to establish buying centres in Ghana and appointed advertising officers to carry out education on proper crop husbandry practices on cocoa production and also to scout for cocoa beans for the company.

In 1918, CBL set up a welfare fund for cocoa growing communities. In 1925, part of the fund was utilized for the establishment of an agricultural training centre in Kumasi called Cadbury Hall in 1925. The same company in 1931 built the Hunter hostel for students in Kumasi (Amoah 1998: 10-2).

Amoah (1998) summed up his work by stating that CBL was instrumental in the institutionalization of good cocoa fermentation and drying processes thus making Ghana

cocoa carved a niche in the global market and beside that the company also invested immensely in building cocoa purchasing depots and experimental farms. The purchase and export of cocoa beans were dominated by foreign capital and foreign companies such as Cadbury Brothers Limited, Cocoa Merchants' Association of America, and Messrs Rowntree & Co. Ltd, until after the Second World War (Asamoah 2001; Amoah 1998).

These foreign companies never processed the cocoa beans, never sited processing factories to generate further employment for Ghanaians. They fixed low purchase prices at the beginning of a new farming season for the crops annually (Asamoah 2001:119; Amoah 1998; Anin 1991).

Governor Guggisberg's administrative policy (1919-1927) discouraged the over dependence of Ghana's economic fortune on cocoa and also prioritised the development of communication infrastructure. Guggisberg's conviction was that the production cost of cocoa and other commodities would fall when there is an improvement in transportation and other communication system. Also the removal of communication bottlenecks would expand the supply of cocoa from the hinterland and this will improve the economic life of farmers along these routes (Frimpong-Ansah 1991:20).

Guggisberg's public policy was intended to link minerals and export crops production centres to the sea ports through expansion of the rail network to enhance the transportation system since he saw it as a major bottle neck in his quest for development (Frimpong-Ansah 1991). Through his policies, rail mileage increased from 276 miles in 1921 to 500 miles in 1931 while roads contracted expanded from 2,241 miles in 1921 to 6,738 miles in 1931 (Frimpong-Ansah 1991:59).

The volume of cocoa traded in increased from 133,000 tonnes in 1920 to 244,000 tonnes in 1931 (Frimpong-Ansah 1991:60) corresponding to the improvement in communication infrastructure. However, this policy dealt a blow to the Ghanaian cocoa farmers. Faced

with the stark reality of financial constraints, Guggisberg resorted to the imposition of taxes on businesses that dealt in export trade to finance his project.

Before the Guggisberg era, taxes were imposed only on imported goods, a situation which affected the merchant class. Guggisberg's new tax policy affected both the merchant class and the farmers, since the income of the peasant cocoa farmer would be eroded. Also, the income of stakeholders in the cocoa industry fell partly due to global economic depression from 1931 throughout the Second World War periods.

Frimpong-Ansah described state policies with respect to Ghana's export crops sector in the post-colonial era as a deliberate attempt by the political and economic managers of the state to orchestrate 'large transfer of private financial savings (surplus value) of farmers and cocoa buying firms to government through the imposition of high taxes on cocoa'' (Frimpong-Ansah 1991:12-3).

He noted that a large chunk of cocoa tax was used to finance capital intensive development projects. However, the cocoa and other export crops production communities were not developed to any appreciable levels in comparison with the urban centres, a situation that suggested that the state acted as a vampire who ruthlessly exploited the rural farmers' resources for the benefit of the urban dwellers.

Post-colonial era agriculture export economy in Ghana under Nkrumah's government saw a stiff competition between farmers and government. The two parties/groups competed for the surplus value of the cocoa revenue because cocoa became the mainstay of Ghana's economy. The production was dominated by smallholder farmers and traditional chiefs mostly in the forest belt of Ghana. They have also accumulated capital through the cocoa industry.

Nkrumah, on assumption of office as the leader of independent Ghana, soon realized there were imbalances in economic activities in the country. This is because the economy was

oriented towards the export of raw materials using cheap labour, an economy starved of industries, served as dumping ground of industrial nations who manipulated prices of exported and imported commodities to their advantage (Killick 1978:43). As a consequence of Nkrumah's observation, Killick argued that Nkrumah's main state policy was to industrialise the agricultural sector through the injection of capital equipment. He took the action since empirically, from 1891 to 1911, improvements in productivity in the colonial era was mainly due to labour intensive agriculture, predominantly in the cocoa and oil palm industries (Killick 1978:175-6).

In his desire to prosecute agricultural industrialization, Nkrumah set up state farms and created agencies such as the United Ghana Farmers Council (UGFC), State Farms Corporation (SFC), Workers Brigade, and Young Farmers' League to manage them. The UGFC was responsible for organising co-operatives and the provision of agricultural extension services. To champion the course of agricultural development, some staffs of the Ministry of Agriculture Extension Department were transferred to the state farms while others were absorbed by UGFC.

The State Farms Corporation was created to expand farm sizes and total acreage just as Workers' Brigade and Young Farmers' League were also formed to establish farms. The state involvement in agricultural production with the use of machines and earth moving equipment neglected the dominant peasant farmers. The government's agricultural policy had preference for farmer organizations and associations which were mainly members of the Convention Peoples Party youth wing (Frimpong-Ansah 1991; Killick 1978).

According to Killick, Nkrumah marginally neglected smallholder private farmers in order to dismantle the gradually rising indigenous private industrial class who may want to use their economic power to oppose the government's economic policies (Killick 1978:186).

Killick suggested that empirical evidence on the performance of the State's Farmer Associations or Organizations showed that UGFC lacked the managerial skill to run the extension service effectively, coupled with an acute shortage of inputs such as cutlasses, fertilizer, and seeds. Many of the personnel employed by the co-operatives lacked the knowledge in the maintenance of agricultural implements. Therefore, lots of the imported farm machines were out of use making the co-operatives to underperform. The Workers' Brigade as an association could not keep farm records over their periods of operation. Also, agricultural settlement schemes meant for Young Farmers League were unsuccessful. The agricultural industrialization policy of Nkrumah shows a bizarre performance (Baah-Nuakoh 1997).

The four state farm schemes (State Farms Co-operation, Workers Brigade, Co-operatives, and Young Farmers' League) established a total of 1123 farms all over Ghana and total hectares planted were 110,627¹ with an average farm size of 0.77hectare per man (Baah-Nuakoh 1997:118). On the other hand, peasant farmers cultivated about 3,174,922 hectares with 0.8 average farm sizes per man (Baah-Nuakoh 1997:118).

Nkrumah's government also started a programme of import substitution industrialization (ISI) to process sugar cane into sugar and palm fruits into palm oil for the manufacture of soap and confessionary in Ghana.

Notable among the agricultural industries established were Komenda and Asutuare sugar factories. However, these facilities lay idle after completion because the sugar cane to feed these factories was to be grown on an irrigated land, a facility that was not constructed before the installation of the factory machines, hence the shortage of cane for processing.

¹ Source: Baah-Nuakoh 1997:118. An acre in the original was converted into hectares in line with current trends in farm size measurement.

In another development, a mango processing facility was built at Wenchi in 1966 to process about 7,000 tons of mango fruits into juice. However, there was no mango plantation to feed the factory (Killick 1978:233). Also as part of Nkrumah's policy on ISI, a rubber estate and tire factory was built at Bonsaso (Dzorgbo 2001:199). Killick then argued that the agricultural policies of Nkrumah hinged on the state farm scheme which neglected peasant farmers who hitherto supported the export economy of Ghana (Killick 1978).

The National Liberation Council (NLC), which governed Ghana from 1966 to 1969 upon assumption of office, stated their administration's objective as promoting private enterprise and therefore sold off some state enterprises to the private sector and closed down some non-performing state farms (Dzorgbo 2001; Frimpong-Ansah 1991).

First, the privatization of the state enterprises affected agro-processing industries like Juapong Textile Ltd., which was bought by UAC. It also affected the state's 49 percent share in Ghana Textile Printing (GTP) Company, and further 49 percent state share in soap manufacturing factory with Lever Brothers (Frimpong-Ansah 1991:101-15). It is imperative to state that the factories and companies that were sold used agro-inputs such as cotton and palm oil produced from some of the state farms in Ghana but after the sale, the new owners had the option to import their raw material without recourse to the local farmers. This action crowded some farmers out of production.

Second, the closure of non-profitable state farms affected 105 state farms including Ejura Farms, meant for sisal and tobacco production together with their farm machinery shops built at Nsawam and Kumasi (Baah-Nuakoh 1997; Dzorgbo 2001:202). Other farms affected were Asutuare Sugar Factory (Dzorgbo 2001:162) and state farm at Wenchi aimed at producing mango for processing (Killick 1978). Apart from managerial incompetence on the part of the top officials of the defunct state farms, most of the

machines imported from Soviet Union were not user friendly in the Ghanaian environment (Dzorgbo 2001; Frimpong-Ansah 1991; Killick 1978) hence they were left to rust and waste away.

In 1972, the National Redemption Council (NRC) led by General Acheampong (1972 to 1978) took over the mantle of leadership of the state. The NRC regime made it a policy to tighten its grip on the economic management of the state's property particularly in the agricultural sector (Killick 1978:317). According to Baah-Nuakoh, the NRC's agricultural policy targeted "the production of foodstuff to feed the population, production of raw materials for agro-based industrialization and assisting farmers to increase productivity" (Baah-Nuakoh 1997:119).

Under Acheampong attempts were made to resuscitate some abandoned state farms and agro-processing factories started by the Nkrumah's regime. As a demonstration of the state's grip on the economy, the government through a decree acquired a 55 percent share in agricultural industries such as the timber, oil palm production and fertilizer industries with 45 percent shares going to private farmers or foreign companies who invested in agricultural projects on a joint venture partnership (Killick 1978:317).

Further, NRC's support for private large-scale farmers and peasant farmers were channelled through the Operation Feed Yourself and Operation Feed Your Industry (OFY/OFYI) scheme instead of concentrating on the state farm concept. This is a sharp deviation from Nkrumah's agricultural policy because peasant farmers were closely knitted and incorporated into the state's agricultural programme (Nyanteng and Seini 2000; Frimpong-Ansah 1991; Killick 1978). To achieve the desired goals, the government established Regional Development Co-operation to supervise the operation of the OFY/OFYI nationwide.

In the 1980s when Ghana's foreign revenue from cocoa, sheanut, timber, and minerals were dwindling (Dzorgbo 2001), the export crop economy was diversified to include the production of non-traditional export crops (Chalfin 2004). Fruit crops such as mango, pineapple, banana, and cashew were among those that were targeted for production in commercial quantities for export.

The contribution of export crops to the economic development of Ghana is significant. The export trade fuelled the growth of Ghana's (Gold Coast) economy² in the late 19th and early 20th centuries. It had enabled the absorption of idle labour force into the production of high value crops (Killick 1978:175), encouraged influx of migrants into cocoa growing areas and influenced fluidity in nation building through intra-ethnic and inter-ethnic co-existence and heralded the introduction of standard currency into the economy as a standard medium of payment. It has however introduced the practice of monoculture crop production which mostly favoured the industrial countries to the detriment of food crop cultivation to feed the local population (Frimpong-Ansah 1991).

The export crops sector has contributed to an increase in the living standards of Ghanaian cocoa farmers, because:

in the period 1951 to 1961, income from cocoa export was £G700 million out of which cocoa farmers have received £G420 million. The proceeds from these exports were used to finance the import of capital, machinery, and consumer goods. For example, from 1951 to 1961, an amount of £G280 million was spent on maintaining the public service, finance development projects and building up Ghana's external reserves (7YDP 1964:53).

Other socio-economic impacts of traditional cash crop production on the people involve the construction of feeder roads linking the villages to facilitate haulage of export commodities. The socio-economic transformations that were markedly noticed are changes in the landscape where traditional mud huts have been replaced by concrete cement blocks,

² Ghana's Seven-Year Plan For National Reconstruction and Development 1963-1970:53

storey buildings and bungalows. Low patronage in education as a result of poverty was reduced with more people seeking formal education since people then generated income from the cash crop being cultivated. Hill (1975) pointed out that the production of cocoa, coffee, and oil palm led to the stratification of crops production into high and low statuses based on gender and age. Men cultivated high status crops such as cocoa, coffee, and oil palm, while women and children cultivated food crops considered low status crops for household consumption.

1.2 Statement of Problem

Several authors have written about Ghana's export potentials in traditional export crops such as cocoa, shea nut, oil palm, rubber, and kola nut (Abaka 2005; Chalfin 2004; Takane 2002; Mikell 1989; Amoah 1979; Hill 1965). The contribution of cocoa and shea nut exports generated substantial state revenue for infrastructural development and payment of emolument for state employees.

Evidence in the literature pointed out that throughout the history of export crops production and development in Ghana, agencies, institutions and the state through policy influenced the process (Abaka 2005; Chalfin 2004; Mikell 1989; Amoah 1979).

In the pre-colonial era, the policy of the Asante Kingdom influenced the commercial production of kola nut as an export crop (Abaka 2005). In the colonial era, Cudbury Brothers Ltd, an agency of Merchant Company in Britain was instrumental in extension services to Ghanaian farmers on proper agronomic practices associated with cocoa production (Amoah 1979). In addition to that the German Basel Mission and the British colonial officers played a significant role in the establishment of agricultural nurseries and demonstration farms/stations in Akropong-Akuapem and Aburi in the Eastern Region of Ghana to propagate and promote the production of export crops (Abaka 2005; Chalfin 2004; Mikell 1989; Amoah 1979).

Again, the state was the main exporter of these crops and served as a link between the peasant farmers and the global market. As far back as the 1920s, Guggisberg's policies on agriculture in Ghana (then Gold Coast) attempted diversifying export crops production by encouraging farmers to go into the commercial production of cotton, sisal, tobacco, rice, and banana to avoid the over-reliance on traditional crops such as cocoa, shea nut, oil palm, and coffee, but the policies were unsuccessful within the period 1919 to 1927 (Frimpong –Ansah 1991).

Succeeding post-colonial governments through policies made it their priority to diversify and expand the export crops production base but they also have largely failed (Nyanteng and Seini 2000; Baah-Nuakoh 1997; Frimpong-Ansah 1991; Killick 1978). The failure to diversify export crops production by both colonial and post-colonial governments was attributed to several factors such as:

The failure of indigenous farmers to adopt new crops, ease of cocoa production and the expected high remuneration and prestige associated with its production, under developed storage and marketing facilities for agricultural commodities except cocoa, unfavourable production prices of agricultural commodities, and lack of traditional technology to process and preserve these highly perishable horticultural crops whose local consumption was very limited (Frimpong-Ansah 1991).

Baah-Nuakoh (1997) stated that the failure of successive post-colonial governments' agriculture policies at diversification was a consequence of governments' direct participation in the agriculture sector and non-implementation of some sets of agricultural policies.

In many decolonized African states, there was "government regulation of marketing, control of prices, and the imposition of direct and indirect taxes on agricultural produce and inputs" (Ezeanyika 2002:194). The state then was the main exporter of these crops through marketing boards which served as a link between the peasant farmers and the global market up until the early 1980s. Mbaku (2002) attributed the state intervention in

the control of resources allocation, market and export to the following. First, the state has power to alleviate poverty of the large majority of the citizen and improved the deprived condition of the people caused by the colonialists. Second, the state is capable of undertaking complex development projects to meet public expectation. This is because the colonialists exploited recourses and the colonies without commensurate development in social amenities and communication infrastructure development on large scale.

Several economic policies were adopted and implemented from the 1983 to 2010 which indicated a reduction in government's role in the production of export crops. A notable one was the diversification of export crops production, trade liberalization, and deregulation of prices of input and produce (Aryeetey, et. al.2000). Specific state policy on agriculture export crops were geared towards removal of trade barriers on export crops. The barriers included state monopoly over exporting of export crops, imposition of import duties on machinery and equipment and income tax on profit of agro-processing companies. The state is to allow multiple buyers and exporters of export crops, introduce competition, remove subsidies on agriculture inputs, permit private participation in the supply of agriculture inputs, remove import duties on machinery and equipment and remove income tax on profit of agro-processing companies (Chalfin 2004; GIPC Act (Act 478); FZE Act (Act 504).

To avert the over-reliance on the production and export of traditional export crops, Ghana government's policy through the Ministry of Food and Agriculture (MoFA) encouraged farmers through tax exemptions and capital injection to diversify into the cultivation of horticultural crops notably pineapple, banana, cashew, mango, and pawpaw for export. The government's Food and Agricultural Sector Development Policy (FASDEP II) on the production of these horticultural crops was necessitated by some imperative factors.

First, the desires of developed countries to eat healthy diet set in motion a defined market for high demand for fresh horticultural products from developing countries. Second, horticultural crops production ensures food and nutrition sufficiency and provide a reliable source of income to farmers. Third, Ghana's agro-ecological zones favour the cultivation of most of these horticultural crops. The statistics on hectares of horticultural crops production in Ghana indicated that in 2008, the area of pineapple cultivated was 8,000 hectares, citrus 15,000, mango 6,360, and pawpaw 880 (MoFA 2010:8) .

Despite the high demand for the horticultural crops by the developed countries there are however, stringent regulatory environments or policy such as food safety requirement in production and processing, environmental impact of production, and labour standards. Notwithstanding the stringent regulatory requirement, revenue generated from the export of horticultural crops from fruits such as banana, pawpaw, pineapple, mango, and cashew in 2010 was Ghc78,662,250 (USD 54,724,537) and mango contributed about 2.4 percent of this earning (GEPA 2010). According to GEPA (2010), processing industries generated revenue from value-addition to the tune of Ghc 35,488,780 (USD 24,689,188) in 2010. Unfortunately, there is limited sociological work on the development of horticultural crops particularly the operation and challenges of the mango industry.

Second, the state also liberalized economic activities (Aryeetey, et. al 2000; Gyimah-Boadi, et. al. 2000). The liberalization impacted on the purchase, market, and export of non-traditional export crops including horticultural crops. This policy created an opportunity for private individuals and enterprises both local and expatriates to invest in mango production, marketing, and processing (Gyimah-Boadi,et.al. 2000). A component of the market liberalization policy was the state withdrawal of subsidy on agricultural inputs and tax exemption on import of agricultural input and equipment.

Third, the state had a policy on agribusiness and agro-processing in Ghana. The Ghana Investment Promotion Council Act (1994) was aimed at promoting agribusiness by granting license and tax exemption to companies that intend to invest in agricultural inputs, technology, post-harvest services, and standard training for farmers. On agro-processing, the Free Zone Enterprise Act (1995) was enacted to grant license to companies that want to invest in value-addition to agricultural commodities in Ghana.

Previous studies on Ghana's export crops such as cocoa, oil palm, and sheanut were centred on: Migrant labour in the cocoa industry (Hill 1956,1963); formation of farmer cooperatives and Cocoa Marketing Board, and agitation of chiefs and educated Ghanaian elites to control cocoa revenue (Killick 1978; Mikell 1989; Frimpong-Ansah 1991; Anin 1991; Amoah1998); contract farming and out-grower schemes, its effect on farmers and the production communities; the state and bilateral oil palm production joint ventures (Daddieh 1994); and the emancipation of women from extreme poverty through state rejuvenation of shea production and how that improved the economic status of women in the three geographical regions in Northern Ghana (Chalfin 2004).

The interest in this topic arose after realizing that though there is literature on Ghana's export crops such as cocoa, oil palm, and shea nut industry, with the diversification of export crops and the commercial production of mango for export, there has been a gap in ascertaining the contribution of the mango industry to income and social status of the farmers, production community development, and agro-processing industrialization through FDI. At the micro level (policy impact), there are other gaps in ascertaining sociological analysis of the followings: state policy on making available agricultural credit to producers and the establishment of export development investment and agriculture fund .i.e. EDIAF Act, (Act 582). There is gap in literature on impact of government policy on liberalization of input supply and private participation in the supply chain in the mango

industry. Another gap is the impact of extension service delivery and the strategy of promoting multiple service delivery from private and public sources. Further gap is the implementation and impact of integrating farmers into the global market through promotion of good agriculture practice (GAP), crop protection, and adoption of sanitation and phytosanitary standards in the mango industry. There also inadequate literature on state policy on the coordination between the state and development partner (donors) agencies in the provision of social, economic and technical assistance to the mango farmers. There is limited literature on the impact of state policy on import duties exemption on machinery to be used in value addition .i.e. Ghana Investment Promotion Council Act,(Act 478) as well as exemption of income tax on profit .i.e. Free Zone Enterprise Act,(Act 504). As part of state policy of trade and market liberalization, NTECs are not under agricultural marketing board. The study noticed that there are limited work on the structure and processes of marketing mango under the trade and market liberalization regime.

To fill the gaps identified above, the study focused on state policies on agriculture credit, liberalization of input supply with the participation of government and private enterprise. Subsequent to that is another focus on the traditional political economy with emphasis on structure and processes of land tenure. The next focus was centred on state policy on multiple extension services delivery by private, state and development partners; promotion of GAP, crop protection, food safety standards; and coordination between the state and development partners in the provision of social, economic and technical assistance to the farmers. Another focus is on marketing of mango under the state trade and marketing liberalization policy by looking at the structure and processes of marketing mango outside the usual state agriculture marketing board. A further focus is on examining state policy on

tax exemption on machinery and equipment meant for value-addition and exemption of income tax on profit from the fruit processing companies in Ghana.

The global export market linked developed countries economy to that of developing countries' and this economic relation is referred to as core-periphery relationship (Frank 1969). Within the core-periphery economic relation, governments and MNC in the core states used state power to create monopoly right and determined the direction of some economic activities particularly the introduction and production of export crops. Due to superiority in technology, financial capital, organized market and manufacturing capacity, the core state exploited the economy of many developing states including Ghana. On the other hand, developing countries produced raw materials and export them in their raw states. In addition, the prices of the raw export crops were priced very low, thus depriving the farmers of high income whereas the prices of manufactured goods from the core states are exorbitant. These 'twin evils' made many developing countries including Ghana underdeveloped and dependent on the advanced countries. The study is based on the theoretical framework of dependency theory with the perspective of dependent development (Evans 1976). The dependent development perspective of the dependency theory stated that in order to transit from underdevelopment to development, production relation in an economy should be based on partnership between the state, local enterprise or people, and foreign enterprise (Evans 1976). The relation suggested by Evans (1976) is in the form of state policy which could promote partnership between local and foreign enterprise/industrialist to participate in economic activities of the developing country. The work has also examined local actors partnered development partners and the impact on development of the mango industry.

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1.3 Objectives of the study

The study sets out with the following objectives:

1. To examine the social organization of mango production in Ghana
2. To discuss the marketing of mango fruits and value added products
3. To investigate the integration of mango farmers into the export market
4. Assess the contribution of the mango industry to the Ghanaian economy
5. To examine state policy on agro-processing industrialization and Foreign Direct Investment(FDI)
6. To assess Ghana's Agricultural Policy on mango production and its impact on economic development.

1.4 Significance of the study

Mango is an important fruit in Ghana in particular and the world in general. Politically, mango has the ability to bring about communal cohesion or disaffection because the price of the mango fruit at a local market was the cause of the inter-ethnic conflict between the Bimobas and the Kombas in 1980 in Northern Ghana (Brukum 2001).

Mango has nutritional value for the human body and it has the potential of turning the economic fortunes of people within the mango commodity chain. That is from the local land aristocrats, farmers, agribusiness person and the entrepreneur in industry. The industry has the potential of increasing the income of farmers and fruit processing companies. The study is significant because it looks at the access to and cost of land. It also evaluated government and development/donor partners' effort in making agricultural credit and inputs available to the farmers for production. Further, it unearths the pivotal role played by donor partners and other multinational companies in integrating Ghanaian mango farmers into the global market. Also the mango industry in Ghana has linked industrial countries in the northern hemisphere with tropical agrarian developing country like Ghana in the southern hemisphere through Foreign Direct Investment. Theoretically

this constitutes a form of dependent development. Sociologically, the study is significant because it is focused on how state power is used through the designing of economic policy for the economic exploitation of state resources for the development of the country.

1.5 Organization of the work

This work is organized into ten chapters. Chapter one provides a background of Ghana's export crops economy and explains the colonial and post-colonial political economy of traditional export crops with emphasis on cocoa, shea nut, and oil palm. It includes governments' role and control of the organization of the traditional export crops. The chapter traced the history behind the diversification of Ghana's export crops to include horticultural crops such as mango, pawpaw, cashew, and banana.

The second chapter reviewed literature on how governments' agricultural policies had influenced export crops such as cocoa, shea nut and oil palm production in Ghana. This chapter also looked at agricultural policies in West Africa, Latin America and South-Eastern Asian countries. The parameters/variables that were considered in the literature review are the research methods, analysis (quantitative/qualitative), results/findings, contribution to knowledge and the observed gaps. Chapter three gives an overview of the study area of Yilo Krobo and Kintampo North Municipal Assemblies. It concludes with a description of the research methods used including on entry to the field, selection of sample, data collection, management, and research challenges.

Chapter four centred on the theoretical framework that was applied to the study, which is dependency theory. The chapter looked at classical dependent underdevelopment and dependent development. In addition to that, criticisms against the theory and how the theory is applicable to the Ghanaian economy are discussed. Chapter five is a discussion of government policies which aided the promotion of the mango industry. These policies

are Food and Agricultural Sector Policy, Ghana Investment Promotion Act, 1994 (Act 478) and Free Zone Enterprise Act, 1995 (Act 504).

The focus of chapter six is to compare of social organization the mango production in the two study areas with emphasis on access to factors of production. The second section of the chapter centres on a comparative analysis between large-scale and small-scale farming systems. The emphasis is on resources mobilization and policy initiatives that engendered small-scale farmers' increased productivity. It also explores the effects of politics (agricultural development policies) on economics (access to and cost of land, labour, and capital) in the production communities. Chapter 7 investigates the integration of smallholder mango farmers into the export market. It explored the organization of farmers into farmer-based organizations. It assesses the collaboration among the Ministry of Food and Agriculture, NGOs, and farmers in the industry. It discusses how farmers are able to meet production and fruit safety standards, and the challenges the small-scale mango farmers faced. Chapter 8 evaluates the marketing of mango fruits and value added products. It looks at post-harvest management of mango fruits, marketing of the mango fruits in the domestic traditional market. Also discussed is the marketing of mango fruits to fresh fruit processors and exporters, and the relation between farmers and the buyers. It concludes with a case study of Blue Skies Processing Company.

Chapter nine focuses on major findings on the political economy of the mango industry in Ghana as well as the theoretical analysis of major findings. The chapter provided answers the objectives of the study and the gaps identified in literature. The tenth chapter is the concluding chapter. It focuses on farmers,' processors, exporters and donor partners' reaction to Ghana's agricultural policy and its effects on economic development.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Formal trade between Ghana and some European countries several years ago operated under liberalized policy (Abaka 2005; Anin 1991), a phenomena that created dependency and unequal development in the developing countries (Asamoah 2001; Frimpong-Ansah 1991). The political economy of export crops in Ghana during colonial administration operated under monopolistic control of advanced countries. The export crop trade relationship between Ghana and the developed countries benefited advanced countries' economy and rendered the Ghanaian economy poor, underdeveloped and dependent on the economies of the developed countries. In the Marxist political economy terms, Ezeanyika (2002) stated that the structure of the export trade is against the economies of developing countries. The process result in unequal exchange, increase in price of industrial goods from developed countries and reduction of price of primary commodities from third world or developing countries. The practice of using state power to control economic activities in developing countries persisted over a long time such that after independence, post-colonial country like Ghana also used state power to create monopoly right, a policy decision that affected the purchase and export of cocoa, coffee and sheanut. Literature on political economy of agriculture suggested that many developing countries impose taxes on farmers in the export sector as an important source of revenue for the state to use for development (Woolverton et al 2010). The literature focused on governments' policies with regard to the political economy of the agriculture sector in Ghana. Literature on export crops policies from African and other tropical countries outside Africa were also considered.

2.1 Traditional Export Crops Production in Ghana (1900-1992)

Major traditional export crops produced in Ghana are cocoa, sheanut and oil palm. Their contribution to the social, political, and economic life of the people and development of the economy cannot be over-emphasised (Chalfin 2004; Daddieh 1994; Frimpong-Ansah 1991; Kay 1992; Killick 1978).

Kay's (1992) study on cocoa as Ghana's main export crop was on the policy adopted by the Department of Agriculture during the colonial period. Using a secondary data on the colonial policy, his work centred on the inattentiveness of Ghanaian farmers to disease control and poor quality of cocoa beans that were offered for sale on the market and how the state economic policies were framed to address the phenomenon (Kay 1992:13). Smallholder farmers' inattentiveness in the maintenance of their farms arose from the fact that the farmers had several small farms dispersed at several locations. Besides, they did not have any scientific methods of disease control which led to the swollen-shoot infection of most cocoa farms. According to Kay (1992), the practice which most farmers adopted was to abandon the infected farms to recuperate on their own. The recommendation from the department of agriculture on the swollen-shoot disease to the farmers was for them to cut down the affected trees and burn them. This did not go down well with cocoa farmers as majority of the affected farmers developed disaffection for the state. They saw the destruction of affected cocoa trees as a reduction in acreage and economic loss especially where they had hired additional labour for the destruction of the farm.

The quality of cocoa offered on the market for sale became a topical issue in the 1940s when attempt was made to set standards for cocoa beans through the creation of special produce inspection branch of the department of agriculture. However, the demand for quality was not backed by corresponding and appropriate bonuses for quality products

(Kay 1992:14). Farmers were of the view that since quality cocoa beans was not commensurate with premium price, incurring additional cost on labour to meet the standard was not in their favour.

Labour and capital are an integral part of the primary factors of production. According to Kay (1992), the high prices at the global stage in 1920 and the subsequent boom in cocoa production in Ghana reflected in the high wages paid to cocoa farm labourers by their employers. Kay stated that the price per tonne of cocoa in January 1920 was £98 and this rose to £ 122 in the course of the year (Kay 1992:48). Consequently, attempts to diversify agricultural export faced shortage of labour because it was difficult to attract labour (Kay 1992). On the issue of capital to finance agricultural expansion, Kay (1992) stated that it was the policy of the colonial government to invest mainly in projects that had the potential of quick returns on investment. Certainly, capital investment in the cocoa industry was not a major priority for the colonial government.

The cocoa industry had great effects on the Ghanaian. According to Kay's study, at the time of Ghana's (Gold Coast) cocoa boom from 1919 to 1920, the expatriates and African cocoa merchants had more money than they used to have. The second occurrence was that white collar jobs and artisanal works were deserted and more people joined the cocoa industry either as farmers, clerks or agents. Third, Kay said:

money easily earned was easily spent, motor cars were purchased right and left, champagne flowed freely, smoke of expensive cigars scented the airWhat made matters worse was that the farmers neglected their food crops for their cocoa and consequently the prices of provisions rose to a height unprecedented in the history of the Gold Coast (Kay 1992:49).

Smallholder farmers realised their vulnerability to monoculture when the price of cocoa fell from £122 per ton to £39 per tonne by December 1920 and a lot of the farmers could not raise money to buy foodstuffs due to the soaring domestic prices.

Another study on the cocoa industry in Ghana was by Frimpong-Ansah (1991) who focused on the political and economic policy of the state which affected export crops production in Ghana. Frimpong-Ansah used secondary data to analyze the influence that the government had over smallholder cocoa farmers and other stakeholders like traditional chiefs and educated elites in the cocoa industry. Frimpong-Ansah noted that the imposition of cocoa tax transcends both the colonial and post-colonial administrations and it was intended for use to develop the country.

From 1927 to 1940, cocoa export price fell drastically from the 1927 total value of export figure of £11.5m to £ 4.m in 1934, despite increased productivity from 210 to 230 thousand metric tonnes within the same period (Frimpong-Ansah 1991:28). The colonial government policy towards the protection of farmers from further slump in producer price, created the Cocoa Marketing Board to fix producer prices of cocoa at the beginning of the production season and be responsible for the export of Ghana's cocoa during the period 1943 to 1947. This policy of using cocoa marketing board as the sole regulator of cocoa price and exporter of the beans was continued by the post-colonial administrations.

One feature of colonial economic policy in Ghana was to encourage the production of exportable agricultural produce as well as the importation of food and manufactured goods from the metropolis in Britain, Portugal, Germany, and the likes in Europe as stated in the Ghana 7-Year Plan for National Reconstruction and Development (7YDP 1964). This implied that those rural communities where the production of these exportable crops were not possible, were of no importance to the metropolis.

To redress this phenomenon, Ghana's 1963/64 seven-year development plan concentrated on the cultivation of tree crops for export in the savannah zones of the country and these tree crops include mango, cashew, and pawpaw. The 7YDP recognised that application of technology and agricultural education to selected export crops through private farmer-based organizations or co-operatives would raise productivity and increase rural income. These objectives were to enable farmers have access to farm machinery, modern farming techniques, and access to agricultural technicians (extension officers).

On modernization and agricultural development in Ghana, Frimpong-Ansah (1991:83) was of the view that there were two issues confronting agricultural development in Ghana. These were fragmentation of smallholders who faced the challenges of poor 'road network, storage and marketing facilities and arbitrary prices' on one hand and improvement of 'farming practices along modern line'. He further said that the agriculture policy of Nkrumah failed to acknowledge the challenges the fragmented smallholders encountered but rather concentrated on the option of improving farming through the introduction of high yielding, disease and dry resistant seeds and fertilizer.

Attempt to kick start large-scale mechanized agriculture through Agricultural Development Corporation (ADC) equally failed due to a number of factors. First, the tractors brought in to work on 30,000 acres (12,000 ha) of land could not function well on the hard soil in the production areas. Second, skilled operators were lacking because the tractor/machine operators scooped away the fertile top soil. Third, there were no experienced managerial and supervisory staffs (Frimpong-Ansah 1991:83).

To cater for the smallholder farmers, incentives were extended to them through the provision of improved seed, tractor services at subsidized rate, credit and capital grants as well as guaranteed prices for selected commodities; nonetheless, the desired result was not

attained (Frimpong-Ansah 1991:84). He concluded that the state's preference for promoting modernized agriculture to the neglect of fragmented smallholder farmers did not develop agriculture in Ghana.

Evidence emphasized that 60 percent of Ghana's cocoa income from export during 1951 to 1961 went to the farmers with the rest, 40 percent, used by the government for nationwide development (7YDP 1964). The record above shows that cocoa became an important source of income for both the state and the farmers in Ghana. However, cocoa is not grown in all the ecological zones in Ghana. For this reason Nkrumah decided to use the cocoa revenue for all her citizens by imposition of more tax on cocoa "the bulk of which fell on the cocoa farmer" (Frimpong-Ansah 1991:86).

The cocoa tax was made possible through legislation that saw the introduction of cocoa duty and development funds which imposed a producer price ceiling. This policy angered cocoa producers and their traditional political leadership particularly in the Asante Region against Nkrumah. Cocoa growing areas in Brong who were under the Asante did not express their opposition to Nkrumah and for this singular bravery against the Asante Nkrumah created a regional administration for them (Frimpong-Ansah 1991:85). This shows that when those who control state power and design policies are stronger than those social groups that oppose them, the latter are punished through the withdrawal of privileges while those who support the state apparatus were rewarded.

The gap that this study has noticed in Frimpong-Ansah's work was that he focused on the tension between Nkrumah's government agricultural policy and peasant farmers on one hand (over-taxation of cocoa), and their neglect in the provision of agro-inputs, and the failure of the state farms on the other. He never commented on the contribution of new technology which people who were engaged on the state farms learnt and new

opportunities that were opened to other Ghanaians. For example, people began to see farming as agro-business as farmers were contracted as out-growers in sugar cane production at Asutuare and Komenda sugar factories. Some peasant farmers specialized in the production of seeds and seedling for distribution to other farmers.

Furthermore, the author did not identify and highlight the implicit effects of Nkrumah's political adversaries on the implementation of his policy on agricultural mechanization because the aversion to Nkrumah's agricultural policy manifested in the privatization of state farms, neglect of machines and equipment on state farms and sale of viable agro-processing industries to cronies of the National Redemption Council (NRC) and Progress Party sympathizers by immediate post-Nkrumah administrations. This posturing of successor governments has led to retrogression in national development, as state assets and projects are abandoned or privatized. This culture will go a long way to loosen the state's lead role in industrialization and participation in the economic activity, reducing the state merely to policy formulation.

Another export crop production that supported Ghana's economy is oil palm. Oil palm is an indigenous fruit tree crop in Africa and Ghana in particular whose use transcends nutrition, economic, and religious values. Daddieh (1994) stated that oil palm products assumed export status as an important commodity when palm oil and kernel oil were used as raw materials for the manufacture of "soap, margarine in addition to additional industrial products such as glycerine, lubricating oils for wax and printing ink".

Despite the economic, social, and religious values of oil palm, its cultivation was said to have been over-shadowed by two main factors (Daddieh 1994); these are farmers' obsession with the relative success of cocoa and coffee with the high income associated with these crops, and a marked fall in the price of palm oil globally in the periods 1890s-

1930s. The farmers' preference for cocoa and coffee as against oil palm production had hampered Unilever Brothers' effort as the foremost Multinational Companies (MNC) in developing the oil palm plantation in Western Africa including Ghana and Central Africa (Daddieh 1994).

Daddieh's (1994) work revealed that the domestic demand for palm oil out-paced its production by the time of independence in 1957 hence post-colonial successive governments attempted the revamping of the oil palm industry with a concentration on large-scale plantation. Works on Ghana's oil palm sector suggested that acreage under cultivation during Nkrumah's reign up to 1964 was merely 8,469 acres. Even though government encouraged peasant farmers to diversify their export crop production, it never created an enabling institution to nurture the industry (Stafarms 1964:14 c.f. Daddieh 1994).

Nonetheless, the Kutu Acheampong-led-government (1972-1978) instituted a Special Agricultural Scheme (SAS) in an attempt to encourage private-state partnership (either from foreign or citizen's sources) in major agribusiness enterprises with special reference to the oil palm production and processing (Daddieh 1994). The SAS on oil palm production received spontaneous response from foreign capitalists since the scheme had favoured large-scale mechanized farming and capital injection. The policies enshrined in the SAS include among others "the contracting of smallholders/out-growers, provision of credit and technical advice to the peasant smallholders; and the marketing of the produce through a sole outlet".

Again, with the vision of creating an enabling policy environment for agricultural development, the SAS provided some incentives such as tax exemptions and tax holidays. The incentives cover "payment of import duties and levies on machines and equipment,

five (5) years of tax holiday for establishing processing industry, construction of dams for irrigation and feeder roads” (Daddieh 1994).

According to Daddieh (1994), some MNCs took advantage of the SAS to invest in the oil palm industry on a joint venture basis with the government of Ghana and as a consequence of that three oil palm plantations were established. These ventures include Benso Oil Palm Plantation (BOPP) established in 1976 in Western Region, owned and managed by United African Company (UAC) and Ghana; Twifo Oil Palm Plantation (TOPP) established in the Central Region, owned by Ghana and consortium of local representatives of MNCs in Ghana; Ghana Oil Palm Development Corporation (GOPDC) established in Kade-Kwae in Eastern Region of Ghana. The GOPDC which was a joint venture between International Development Association (IDA) and the Ghana Government was established in 1975 (Daddieh 1994).

Daddieh’s study focused on GOPDC which was established to promote oil palm production through contracting out-grower scheme to halt capital flight due to the high import bill of palm oil and products import and also to generate capital for the state. The parameters or variables that the study looked at were the state’s role in the marshalling of production resources and recruitment of smallholders for contract farming. He also centred on some attributes of contracting especially the consequences of contract farming and nature of conflicts between the state, agribusiness, and smallholders. The researcher used the survey method to enumerate 140 smallholder households and interviewed twenty-three respondents who were mostly moderately literate people whose composition were two university graduates,

eight secondary and technical school leavers and thirteen teacher training college leavers.

His findings show that the oil palm plantation operated nucleus estate and smallholder out-grower schemes in addition to private large-scale individual contracted out-growers. The state was responsible for the expropriation of land for the nucleus estate and smallholder farms, the provision of seedlings and farm tools and working gears, and subsidised fertilizer and guaranteed prices. As part of the joint venture arrangement, the World Bank provided funds for the installation of processing plants on the estate for the processing of the palm fruits. For GOPDC project in late 1982 when the Phase 1 of the project was completed, a total area cultivated was 5,143 hectares of which Estate Nucleus Farms cultivated 3,943(ha) and Smallholder Farms cultivated 1,200 (ha) (Daddieh 1994). Also in 1990, total oil palm under cultivation at Kade-Kwae was 7,700 (ha) with Estate Nucleus Farms production remaining at 1982 figure of 3943 (ha) while there was marked increased in area cultivated by Smallholder farms to 3,757 (ha) (Daddieh 1994).

The average farm size of the smallholders was 4.41 hectares whose ranges were from 1 hectare to 10 hectares. However, the private large-scale out-growers farm sizes were above 12 hectares and they equally had large cocoa and coffee farms. The strategy adopted by the large-scale farmers' diversification of crops against a possible fall in price or exchange value of a single mono-cropping, the smallholder/out-growers entered into lease agreement with the GOPDC to produce oil palm fruits for the company which the company in turn gave out eight hectares for cultivation that was to be used as follows; seven hectares for oil palm and one hectare for food crops cultivation. The GOPDC again provided the farmers

with fertilizer, wire net, field boots, and logging of trees on the field and haulage of fruits from the fields to the mills at a cost to the farmers.

As a rule of engagement, the farmers were allowed a political space and therefore, the GOPDC's smallholders and out-growers organized themselves into an association called Smallholders and Out-grower Association of Kwae (SHAK). SHAK is a Farmer Based Organization (FBO) that engaged the GOPDC on a number of issues.

The SHAK, apart from making sure that inputs are supplied to its members, equally demanded some additional incentives such as access to GOPDC's vehicles for the haulage of their foodstuffs from the farms to the villages and continuous supply of fresh fish from cold stores in Accra to the farmers.

Further, some members of SHAK also applied for housing loans to enable them procure roofing materials. However, this demand was never met within the period 1982 to 1986 (Daddieh 1994). On the other hand, SHAK members complained about the unfair practices meted out to them such as delays and irregular collection of harvested fruits from the farms to the mill, making the fruits undesirable for processing coupled with the destruction of food crops planted on serviced plots awaiting supply of seedlings for planting.

The oil palm nucleus estate contract farming scheme has chalked some achievements and faced some challenges. The GOPDC partnered communities in her catchment areas to rehabilitate and construct basic schools classroom blocks, village markets, dispensary centres, potable water boreholes, and sanitation facilities (Huddleton et al 2007). There has been capital injection into the rural economy through the payment of money to out-growers and wages to labourers. As a trickle-down effect of the establishment of the GOPDC, cottage industries sprouted out and employed local labourers (Huddleton et al 2007). The challenges noted were protracted land litigation between the state and the local

landholding aristocrats in the production communities which had delayed the rapid expansion of the project and raised the cost of the project. The productivity of the smallholder farmers lagged behind expected yield but that situation was surmounted by large-scale farmers: the annual fruit bunches in 1985 from nucleus estate were 10,032,180; smallholders/out-growers 2,085,130, and private large-scale farmers 3,190,935 (Daddieh 1994). The cost of credit, inputs, and working gears advanced to the farmers and charged against the produce coupled with cost of labour did not favour smallholders thereby making them unable to plough back their income.

The study also noticed that prices of the palm nut often stagnated over a long period leading to diversion of fruits to other well remunerative market outlets and this deprived the company of fruits to meet full production capacity and thus violated the contracting agreement. Furthermore, the GOPDC kick started the process of depeasantization in the production communities. The peasant farmers whose lands were expropriated were employed as tenant on the estate farms, the smallholders and large-scale farmers were not allowed to intercrop food crops with the oil palm and this had led to food insecurity among smallholder contracting households.

The gaps that has been observed in Daddieh's (1994) study were, his inability to elaborate on food safety regulations and standards that farmers were required to meet in the production process, the reaction or collective action by youths in the production communities who were excluded from the contracting scheme due to the policy of recruiting only people who were married and had at least five children and the role of NGOs were mute in the study.

Shea nut commodity has carved a niche in Ghana's economy in the pre-colonial, colonial, and post-colonial history of Ghana. The shea industry plays an important role in the

economic life of people in the three Northern Regions in particular and the nation as a whole (Chalfin 2004). In her study of the shea commodity in Ghana, Chalfin had focused on the emergence of shea nut as an export commodity and therefore centred the work on Ghana's policy of market reform in the shea trade. The parameters of her study were the participation of the state, citizens, and multinational institutions in the reform programme. Chalfin's (2004) work was basically an ethnographic study with data gathered through field note, direct observation and participation, and in-depth interviews.

Chalfin (2004) identified that during the pre-colonial epoch, the production of shea trees defied the logic of plantation cultivation because in the strictest term the shea tree was not cultivated on plantations like cocoa, kola, oil palm, coffee, and rubber, but rather grow in the 'wild' mostly in already tilled fields during fallow periods after the harvest of cereals and legumes. With the peasantry under this culture of shifting cultivation in the savannah belt, shea trees are not cut down during land preparation due to their cultural and economic values (Chalfin 2004:45). Shea nut products (butter) competed prominently with commodities such as salt, kola, gold, and ivory at market places in the ancient Mali Empire. These facts were documented in the records of Ibn Battuta in his 1352-1353 expeditions (Chalfin 2004:90).

The colonialists interest in the promotion of shea nut as an export commodity was premised on a report in 1892 by George Ekem Ferguson on the economic value of the shea tree to the people of the current three Northern Regions of Ghana, emphasizing the importance of the crop to the informal economy of the northern territory and whose exploitation and development would integrate the people with southern Ghana (Chalfin 2004:89). The collection of shea nut is embedded in the traditional and familial power relations. Chalfin's (2004) study shows that shea nut collection and processing is gender

specific and women are inextricable from the vocation and skills needed in this sector of the Northern Savannah agricultural economy of Ghana.

Chalfin's narratives on access to shea tree and shea nut products are worth considering (Chalfin 2004:47-8). There are two major recognized system of access to shea trees. These are access through "common property" and "exclusive property rights" (Chalfin 2004:48). First, access to shea trees on uncultivated savannah forest land become a common property and other economic trees thereon are put under the authority of the traditional local chief whose jurisdiction covers that particular geographic space. As a consequence, subjects (usually women) of this chief will necessarily seek permission from the political head to pick the shea nut and thereafter pay a token fee (Chalfin 2004: 47). Second, accesses to shea trees on cultivated lands (i.e. active or fallowing) are exclusive property of a lineage member who has usufruct right of use (Chalfin 2004:48). Under this land tenure practice, the wife (wives) and siblings of the farmer then have access to the shea trees without any compensation to the man (husband) or the political figure of the locality.

Empirical research showed that:

shea products (butter) were traded into the Sahel regions of Africa in the middle ages and at the beginning of the 18th century. Shea products were among tropical oils that were traded and shipped into Europe and Brazil in Latin America (Chalfin 2004:13).

According to Chalfin (2004), prominent trade routes for shea butter products from Northern Ghana to its coastal towns were from Yendi, Daboya, and Salaga all in the north, to Akuse, Ada, and Accra at the Coast. The Ghanaian shea butter trade to the Sahelian countries starts from Yendi and Tamale through to Bawku in Ghana to Gao and Timbuktu in the Sahelian regions (Chalfin 2004).

Chalfin's (2004) study of Ghana's political economy of shea trade indicated that colonial administrators played a prominent role in Ghana's shea export promotion through research into shea's nutritional, industrial, medicinal, and aesthetic values. Chalfin (2004) revealed that colonial officials at both regional and district levels together with their forestry and agricultural officer at Aburi in the Eastern Region explored the yield capacity and cultural practices associated with shea tree (Chalfin 2004:110). Again, Chalfin (2004:104-5) stated that a Liverpool based African Association Ltd started the purchase and export of shea nut from Ghana (Gold Coast) to Europe between the years 1910 to 1919. However, with the rise in the consumption of shea product, competition in the trade intensified as other firms joined in the purchase and export of shea. According to Chalfin:

attempts were made by an African Products Development Corporation to resolve the challenge posed by road transport by proposing to construct roads that could link the various shea nut producing districts to enable bulk haulage of shea nut. Additionally, the company proposed the installation of shea butter processing plant within the environs of Yeji or Salaga (Chalfin 2004:109).

However, these goals never materialized since the initiative was thwarted by a key hierarchy of the colonial officials for the fear that the state was about to lose its grip on commercial resources in the colony to private entities.

Economic policy on export crops changed in the 1930s and the 1940s especially within the World War II periods. The economic policy of these decades were deliberately crafted to enable governments mobilize revenue for the running of the state. From the 1930s onwards, trade in shea nut export like cocoa and coffee was supervised by the state marketing board later to be known as the Cocoa Marketing Board (CMB). However, despite this strategy, trade in shea butter, a product of shea nut, was not regulated by the government but left in the hands of Ghanaian women. During the post second world war era, the state had marginal interest in the shea commodity in the 1940s. It is lamentable that shea industry and its contribution to the export basket in Ghana performed abysmally

from the 1960s to the end of 1970s and this was attributable to the then governments in power.

Frequent regime change in Ghana runs parallel to the political economy of shea purchase and export. Chalfin (2004:133) revealed that in the 1950s, private agents were the main participants in the domestic shea nut trade. However, from 1960 to 1965, the state took charge as the sole domestic purchaser during Nkrumah's CPP regime. Nonetheless, from 1966 to 1970, during the regime of the National Liberation Council (NLC), private firms were once again allowed to operate in the shea trade. Following the NLC, the Progress Party (PP) government in 1970 legislated for state control of the shea trade. However, this was short lived as the Acheampong regime which assumed the helm of affair of the Ghanaian economy re-introduced private participation in the domestic shea trade.

By the 1980s state control of shea export became visible and marked where government through institutions and agents formed co-operatives, that is Shea Nut Farmers Societies (SNFS) in shea growing communities (Chalfin 2004:14). From thence, in the 1980s shea trade became a battle ground for both the state and International Financial Institution (IFI) such as the International Monetary Fund (IMF) and the World Bank (Chalfin 2004). While the state wanted to assert its grip on the domestic shea trade, the IFIs advocated the privatization of the shea trade whereby the state will thoroughly divorce itself from the shea industry. Despite this enormous pressure on government from the IFIs, the Rawlings regime by 1984 withdrew the licenses of state-private buying agents and embolden the Cocoa Marketing Board (CMB) and Produce Buying Company (PBC) legally to control country-wide purchases of shea nut and its export (Chalfin 2004:140).

To strengthen the community purchase base for the PBC, Shea Nut Farmers Societies (SNFS) were formed in shea growing communities in the Northern Region. The SNFS

were tasked with the responsibility of being the sole legitimate supplier of shea nuts to state agencies like the CMB and the PBC (Chalfin 2004). The SNFS were in turn aided by local communities like the Committee for the Defence of the Revolution (CDR) to ensure increase in shea supply.

State policy on the shea commodity chain changed in the 1980s from active participant to a supervisor in the early 1990s. As an economic policy, private buyers were licensed and empowered to buy and export shea nut to the global market. Through this policy reform, PBC was responsible for the licensing of private shea nut buying and export. The PBC also inspected shea nuts prior to export at a cost to the private purchasing and exporting firms. It was as a result of the state withdrawal in the active purchase of shea nuts that the avenue was created for Ghanaian private firms which were multinational in scope and character to inject technology and liquid capital with speed of light and thereby occupied the space left by the state (Chalfin 2004).

Chalfin's study concluded that the trade reforms in the 1980s where the PBC instituted the formation of SNFS for the regulation of shea nut trade in the production communities and the subsequent involvement of the CDR in the evacuation of shea nuts aided the alteration of the femininity of the shea trade. Men then joined the trade and majority of them were elected to executive position of the SNFS. However, the men still depended on the experience of women in nut maturity, suitability, and appropriateness of the shea nut before they were purchased. When shea nut was much sought for in the production communities, men asserted their claim to the product by giving instruction to their wives/wife or their female folks to have a bite or a share in the proceeds of the shea trade. Wealthy women traders have diversified their trade items by entering into the shea nut trade with some eventually elected to executive positions within the SNFS. This phenomenon made women became leaders over men in a highly patriarchal society.

Though PBC relinquished the purchase and export of shea nut, her role in licensing and quality control through prior shipment inspection of the shea nut, the PNDC government of Rawlings kept at bay the incursion of the IFIs in taking away the authority of state institutions responsible for revenue mobilization. The researcher has identified some gaps in the literature. Chalfin had illustrated that shea butter produced in Ghana linked the rural women in Northern Ghana to the global market. However, I think that feeding the export market alone was inadequate. She glossed over processes such as training, extension services provision and food safety standards that were adhered to that integrated the women in the global market.

Obviously, as an American who believed in the capitalist philosophy of international division of labour between the industrial countries and peripheral countries, she portrayed mutual benefits of the shea trade to the producers and consumers but failed to tell how the dependence on and the concentration on the shea production leads to food insecurity in northern Ghana. Furthermore, her work did not show how the exploitation of the shea nut to the advantage of the state translated into the provision of social infrastructure.

2.2 Horticultural Export Crops production in West Africa, Latin America, and South-Eastern Asia.

Mali's main traditional exports were cotton, gold, and livestock. However, in the 1990's, the state diversified its export crops base to include mango production since the country has climatic and vegetative advantage in some areas that support mango production (Sangho, et al 2010). The political economy of the mango industry in Mali was aided by the state, the World Bank through International Development Association (IDA) loans, and private institutions (Sangho, et al. 2010). The objective of this multi-support was poverty reduction through increased rural income and employment through export crops

diversification. The Mali government designed agricultural diversification policy and established the Malian Agricultural Value Chain Promotion Agency (APROFA) in order to induce sustainable growth in food and export crops (Sangho, et al. 2010:9). Further, the Malian government sourced a loan from the World Bank/IDA and technical assistance from USAID for agricultural trade and processing promotion.

These actions provided an enabling environment for private sector participation and state disengagement from commercial agricultural production. This state policy marked the take-off stage of Mali's mango industry in the 1990s. The main constraint identified with the Malian mango industry was their overreliance on air-freight to the European destination due to their landlocked nature, a situation that makes the price of Mali's mango comparatively high. This challenge was overcome through a strong collaboration and partnership between the state agency APROFA and private businesses in the organization and management of land and sea freight transit of the mango chain in Mali (Sangho, et al 2010).

Through joint effort, a cool chain system was established (Sangho, et al. (2010). The cool chain system involved the provision of refrigerated containers at the farm-gate in landlocked Mali. These containers are loaded with just-harvested fruits which are transported to rail stations in Cote d'Ivoire near Mali's border for onward transfer to the sea port and subsequently exported to European countries. This innovation in freight forwarding, reduced the transit time and minimized the post-harvest losses encountered in the Malian mango industry (Sangho, et al. 2010:16/7). The success of the alternative sea-freight made it possible for Mali to supply quality fresh mango fruits to Europe and increased demand for Mali's mango. The socio-economic effects of this breakthrough are that farmers increase production and receive high prices at the farm-gate; exporters also increase their volume of export and this is translated into increased revenue for the state.

At any rate, there are marginal reductions in poverty level of rural people who are engaged in the production of mango.

Agricultural commodity chains research in Latin America and Caribbean provided a useful lesson for the analysis of export crops in terms of organization of production of raw materials, processing/packaging, marketing and consumption (Raynolds 1994). The Dominican Republic inherited a colonial –structured agricultural export system with main export crops being sugar, coffee, cocoa, and tobacco. With a slump in their export revenue, the country then diversified by expanding its agricultural export crops basket to include melons, pineapple, tomatoes and green pepper, all referred to as non-traditional export crops. The decision to diversify was largely influenced by the U.S.A, the IMF and the World Bank. While the USA reduced the quota for traditional export to their country, causing loss in foreign exchange earnings to the Dominican Republic, the IMF and World Bank compelled the state to adopt the neo-liberal trade regime.

Raynolds' (1994) findings indicated that the non-traditional export sector of export crops received the utmost subsidies. Firms in the sector enjoyed free income tax and import duty. In addition, exporters of non-traditional agricultural produce were assisted with state-subsidized loans and moderately priced state land from old sugarcane fields.

These political policies stimulated a sudden increase in the non-traditional export crops sector in the Dominican Republic in the 1980s. The average investment of fresh fruit and vegetable firms was approximately USD1.5million. Ownership of the fresh fruit and vegetable firms were 44 percent foreign-owned and controlled, 47 percent are Dominican owned, and 9 percent joint foreign-local partnership. Raynolds (1994) identifies three interrelated processes within the fresh produce commodity chains which are: raw material production; blend of processing, packaging, exporting, and marketing activities.

The source of supply of produce is from three sources. First are the peasant farmers who sell in the open market. Second, the exporting firms which cultivate their own farms using hired labour. Third, firms which enter into contract with out-growers. In view of the fact that fresh fruits and vegetables are highly perishable, suffer from handling and storage, their retail price depends on their high quality and physical standard. Export firms in the Dominican Republic preferred internal plantation production and out-grower systems to buying from the peasant farmers.

Another reason advanced was the inability of the peasant farmer to invest much in infrastructure and technology to meet international standard requirements. To avoid the deterioration of fresh fruits, they need to be washed, sorted, packed, cooled, internally hauled and later shipped. To be successful at this segment of the industry requires good knowledge in plant biology in order to minimize pests and pesticide residues which can lead to rejection of an export consignment, and the ability to meet marketing and import requirements.

Raynolds (1994) argues that since the internal market demand for fresh fruits in the Dominican Republic was woefully limited, firms in the fresh fruit industry depend largely on US market. Their success depends on their ability to link up with distribution food chain stores. It was noted that while there was a significant reduction in export of fresh fruits and vegetables purchased from open market to the US market due to pest infestation and pesticide residues, plantation farmers who were mostly managed by multinationals continue to enjoy high patronage.

Raynolds concluded that the expansion of the non-traditional export crops sector was based on the state providing concession to players in the sectors-viz-MNC, a situation that limited the local returns from this export boom. The literature indicated it was because

firms pay few taxes to the state, enjoyed subsidized land rents, and paid low wages to labourers.

Borras (2007) stated that the neo-liberal policies of the World Bank and the IMF where access to productive resources (land and infrastructural –capital equipment) is based on free market mechanism, does not favour a significant population of rural poor in developing countries like the Philippines (Borras 2007: 145/6). The non-traditional export crops produced in the Philippines are banana, mango, pineapple, and aquatic products (Borras 2007:147).

Land in the Philippines from the 1850s to the end of Spanish colonial occupation in 1898 was concentrated in the hands of the Spanish conquerors and the Roman Catholic Church. The loss of land by the indigenes made them become share tenants, subsistence farmers and landless rural proletariats.

According to Borras (2007: 148), a number of land and tenancy-related violence occurred in the Philippines that ended in different land reforms. However, these land reforms further benefited the urban elites who engaged in land grabbing and rather impoverished the rural poor. The government of Philippines instituted ‘free market’ policy in the 1980s, which made the state to import more food-stuffs and beverages rather than investing in the production of NTE crops. Therefore, even though mango products show a sign of being a potential revenue generator, the sector was marginally exploited. Borras’ (2007) study revealed that the land appropriated by the few elite class created an army of the rural poor people, coupled with political instability, making poverty and inequality endemic among the people of the Philippine.

Rath’s (2003) study focused on the impact of the horticulture industry on the people who depend on their agricultural labour power for their livelihood in rural India. The grape

export operations were managed and controlled by private sector operatives, specifically farmers' group independent of the state. The markets for Indian grape are the Gulf countries such as Bahrain, Dubai, and Oman.

Rath (2003) stated that the Indian agriculture research ministry/department helped to develop variety of grapes and other NTE crops that can thrive well under the Indian ecological and climatic conditions to get the desired yield.

The political economy of the grape industry was further boosted in 1991 when the government reduced import duties on agricultural infrastructure-(such as cool chain storage facilities and equipment). The grape farmers' co-operative was formed and it comprises small and medium farmers. The grape growers' co-operative then accessed commercial loans from banks and purchased some cool storage containers, disengaged middle agencies in the export trade and negotiated directly with European wholesalers. Their strict adherence to safety standard and quality fruits won the confidence of the European buyers and this boosted their profit margin (Rath 2003: 481-2). He asserted that skill is of essence in differentiated tasks performed by workers in the grape industry.

Rath (2003) concluded that trade liberalisation in agricultural sector in India created an avenue for local farmers in Narayangao district. The farmers formed co-operatives, they created opportunity for high demand for skilled labour in the catchment area, and the co-operative structure of the grape industry enabled small-scale farmers to benefit from the global market with limited resources.

2.3 The Mango Industry in Ghana: Evolution and Diffusion

The evolution of mango production in West Africa dates back to the 17th century (Tweneboah 2000; La-Anyane 1963:7) and the early Portuguese explorers played a role in

it. Mukherjee (1953) argued that the distribution and global cultivation of mango started with commerce between Asian and European Merchants. He reported that it was the Portuguese who first traded in tropical fruits, spices, and vegetables from Asia in the early 16th century (Mukherjee 1953:132). On their voyages, they carried the mango plant and seed from India to East Africa first, then onwards to West Africa and subsequently to Brazil in Latin America in the 16th Century (Mukherjee 1953). The trajectory of global production mango attested to the fact that mango as exogenous tree crop entered Ghana like other West African country in about the 16th century.

The Mango fruit tree grows in old and new settlements in Ghana. In the 1960s deliberate attempts were made to cultivate it on a large-scale for export trade (Abutiate 1988). To propagate mango production nationwide, the Crop Research Institute had introduced new mango cultivars in the late 1960s and planted them at Somanya and Ejura respectively (Abutiate 1988).

Small and large-scale mango plantations are being developed in the savannah and the forest transitional regions of Ghana (Tweneboah 2000). These areas include the South Eastern, Coastal and the Northern Savannahs as well as the transitional forest agro-ecological zones of Ashanti, Brong-Ahafo, and Volta Regions of Ghana (Dixie and Sergeant 1998; Voisard and Jaeger 2003).

Agro-processing companies were explored (Boeh-Ocansey 1996) to ascertain the production capacity of these processing companies. In his study of the interrelationship between product superiority and human wherewithal factors of fruit processing enterprises, Boeh-Ocansey (1996) suggested that the quality of a factory product depend to a large extent on the production technology (equipment) and how efficient and effective the management or the human resources of the processing factories are (Boeh-Ocansey 1996:42).

He identified the characteristics of most Ghanaian fresh fruit processing industries as independently owned and operated by its owners. These operators have secondary education and without formal management structure. Then he argues that the neo-liberalized trade system that Ghana submitted itself to in the mid-1980s, resulted in a great challenge to indigenous fruit processing enterprises for the fact that they are exposed to an increasing stiffer competitive global market. Invariably, these factories suffer from the global competitive market as a result of low level of technology, limited business experience of the indigenous entrepreneurs and poor quality of raw materials (fruits) (Boeh-Ocansey 1996:5). His study established that more efficient production technology/equipment turns out better-quality products and equally so, the class of the workforce and management staff engaged in the operations of the factories can bring about the needed revolution in the food processing subdivision of the fresh fruit chains of export crops (Boeh-Ocansey 1996).

In the Fourth Republican Constitution of Ghana there was an enactment of investor friendly policies for agribusiness and agro-processing leading to investment in agro-fruit processing companies. These fresh fruit processing factories processing mangoes are Blue Skies near Nsawam, and HPW at Adaeso in the Eastern Region. Tongu Fruits now called Volta Integrated Agricultural Development Co. Ltd.)³, in the Volta Region of Ghana, and the Integrated Tamale Fruit Company (ITFC)⁴ in the Northern Region of Ghana. These processing companies do value addition to the fruits from the farm gate. While some export fresh cuts, others do dry mango chips, pastry, and jams. Exporters of whole fruits are playing a significant role in the mango industry and the major players are (Bomart

³ Ghana Export Horticulture Cluster Strategic Profile Study-2008.

⁴ ITFC:Organic mangoes improving livelihood for the poor;Agricultural sector local SME of Sub-Saharan Africa-Ghana –UNDP2007 by Robert Osei.

Farms, Prudent Export Farms, Weblink Farms, Evelyn Farms, Winfield Farms Ltd.) all in the Greater Accra Region⁵.

The global mango import into the European Union and American markets showed that, majority of mangoes consumed in Europe and United State of America were imported mostly from developing countries (Pay 2009). Mango export to the European Union (EU) in 2008 production season, was dominated by Brazil who supplied 95,322 metric tonnes (41 percent) followed by Peru 49,702 metric tonnes (21 percent), and Pakistan 12,942 metric tonnes (6 percent). In West Africa, Cote d'Ivoire 11,250 metric tonnes (5 percent), Senegal 6,034 tonnes (5 percent), Mali 4,902 metric tonnes (2 percent)(CIRAD (2009). Also Mango export to the USA in 2008 stood at 30,594 metric tonnes which was supplied by three main countries: Mexico supplied 293,703 (96 percent), Haiti exported 9,173 metric tonnes (3 percent), and Brazil exported 3,059 metric tonnes (1 percent) (Pay 2009). Ghana's mango export over recent years indicated that the metric tonnes exported were in units of tens i.e. from as low as 23,000 metric tonnes in 1991 to 83,000 metric tonnes in 2003 (Dixie and Sergeant 1998; World Bank 2011). Subsequent results indicated that production increased from the units of tens to hundreds .i.e export increased from 179,000 metric tonnes in 2004 to 983,000 metric tonnes in 2007 (Dixie and Sergeant 1998; World Bank 2011). Further, in 2010, mango exported from Ghana in kilogram was 291,130 and this earned Ghana USD 230,431 or GhC332,142 (GEPA 2010). The above data shows that the mango industry is emerging as the volumes of export keep growing gradually. This has formed the basis for this study into the mango industry, its economic potentials and fortunes for the smallholder farmers, processors and exporters, agro-input dealers, and the state.

⁵ Ghana Fresh Produce Exporters' Directorate-2008.

CHAPTER THREE

3.0 RESEARCH METHODS

Introduction

The chapter is divided into two main parts. The study areas were discussed in part one and part two dwelt on the methods adopted in the conduct of the study. The study was conducted in two Local Government Assemblies in Ghana. These are Yilo Krobo District in the Eastern Region and Kintampo North Municipal Assembly in the Brong-Ahafo Region. The descriptions of these areas focused on the location of the areas on regional basis, physical characteristics, demographic compositions, cultural heritage, and the agricultural activities. The research methods start with the type of research and the rationale for choosing it, the parameter of the study and how they were sampled, the instrument used in collecting the data and data management.

3.1 The Study Areas

The Yilo Krobo District is one of the study areas located in South-eastern Ghana with an estimated area of 805sq.km. It has a population of 87,847 which comprises 42,378 males and 45,469 females (2010 population census, GSS 2013). The neighbouring Districts are to the North, Manya Krobo District, on the south by Akwapim North and Dangme West Districts and on the west by New Juaben, East Akim and Fanteakwa Districts.

The climate of Yilo Krobo District is within the dry equatorial climatic zone (www.yilokrobo.ghanadistricts.gov.gh). It has a bi-modal rainy season, with maximum during the two peak periods of May-June and September-October. The mean annual rainfall in the major planting season is 1,200mm-1,600mm and it spans from March to June while in the minor planting season mean annual rainfall is between 750mm-1,200mm and that is from September to December (www.yilokrobo.ghanadistricts.gov.gh). Temperature ranges between a minimum of 24.9⁰C and a maximum of 29.9⁰C. The District experiences

relative humidity of 60-93 percent on an annual basis. The District has a semi-deciduous rain forest and savannah grassland. The semi-deciduous rain forest stretches across a wider part of the district and occupies about 85 percent of the estimated area as savannah grassland with scattered tree species like Neem, Cassia, and Mango occupying about 15 percent of the estimated area. Part of the savannah forms the Accra plains (<http://yilokrobo.ghanadistricts.gov.gh>).

The district is about 80 percent mountainous. The Akwapim Range stretches into the district from southwest to northeast across the district. It also has numerous valleys which provide an undulating landscape (www.yilokrobo.ghanadistricts.gov.gh). The low lands are in the south-eastern part of the district.

The rocks forming the ranges are called the Togo series which include quartzites, sandstones, and sandy-shales. The height of the highlands in the district ranges between 300 and 500 metres above sea level. On the south-eastern part of the district is the Krobo Mountains from where it is believed the Yilo people migrated to the present area (Amanor 1994). There are two main watersheds forming three river basins in the district. One of the watersheds is located on the Akwapim Range where streams flow in an eastward direction on the lowlands into the Volta River. On the west of the range, streams flow into the Ponpong River, eventually empties into the Volta Lake.

The main productive activities in the Yilo Krobo District are agriculture, small-scale enterprises and services. However, agriculture is the most important economic activity. It employs about 58 percent of the population in the District. Crop farming is the principal agricultural activity in the District. According to Amanor (1994:53), Krobo farmers supplied almost 60 percent of the palm oil export in Ghana (Gold Coast) in the middle of 1800. It was the same Krobo area that production of cocoa started failing, compelling

farmers to transit from cocoa farming to concentrate on food crop farming (Amanor 1994). The main crops grown are maize, cassava, yam, cocoyam and plantain.

A wide range of vegetables like tomatoes, garden eggs, pepper and okra are also grown. All these crops are cultivated largely on a small-scale. Yilo Krobo has however, seen the emergence of medium to large scale farms within the last few years. Large scale tree crop plantation like mango has become a very important income generating activity as a result of interventions made by MOFA in collaboration with ADRA, TIPCEE, MiDA, and the Hunger Project. Also mango has both ecological and economic potential in the District (www.yilokrobo.ghanadistricts.gov.gh).

The average farm size in the district is 0.81 hectares. This is far below the national average of 1.2 hectares (www.yilokrobo.ghanadistricts.gov.gh). This is as a result of land fragmentation which is explained by increasing population and the tradition of fathers dividing land and sharing it amongst their children. The more the children, the smaller the plots become. Land in the district can be acquired through inheritance, lease, and private ownership or hiring.

Apart from crop farming, livestock farming is also practiced in the district. The practice in the district is such that most of those engaged in cropping are also involved in livestock rearing. The main types of livestock reared in the district are cattle, goats, sheep, chicken and pigs. These animals are reared all over the district. Most of the livestock rearing activities are meant to supplement nutritional requirements and to earn additional income. Labour is scarce and expensive in the district during the peak periods of agricultural production (land preparation, weeding and harvesting).

The main farming tools used in the District are hoe and cutlass. Most of the farmers cannot afford inputs that reduce the need for physical labour. This limits the ability of the farmers

to increase the size of their operations, thus, discouraging them from trying new innovations in agriculture. The channels used to enable Extension Agents reach out to many farmers are a combination of the individual and the group methods and the use of mass media like the Rite 90.1 FM located at Somanya. The services provided range from technical advice on new technologies. For example, the introduction and use of improved planting materials, application of fertilizers, effective and efficient use of agro-chemicals, and veterinary services.

The District has an estimated total road network coverage of 240 km. This includes 80km of first class roads linking up the district capital to Accra, Tema, Koforidua, Ho Asewewa and Akosombo. There are also about 160kms of feeder roads linking up the market centres and major settlements (www.yilokrobo.ghanadistricts.gov.gh). The three main markets in the District are Somanya, Nkurakan and Agogo markets. Middlemen from Accra, Tema and Koforidua play a major role in the marketing of agricultural produce in the district. Most of the farmers sell their produce to middlemen who, in turn, send it to other marketing centres within and outside the District for sale.

Kintampo North Municipal is the second study area. It is one of the local assemblies in the Brong-Ahafo Region (BAR). It was created in 1988 by Legislative Instrument 1480 consequent to the government's decentralisation programme with Kintampo as its capital (www.kintampo.ghanadistricts.gov.gh).

It is located between latitudes 8°45'N and 7°45'N and Longitudes 1°20'W and 2°1'E and shares boundaries with five Districts in the Country. The districts are Central Gonja District to the North; Bole District to the West; East Gonja District to the North-East (all in the Northern Region); Kintampo South District to the South; and Pru District to the South-East (all in the Brong Ahafo Region) (www.kintampo.ghanadistricts.gov.gh).

The Municipal Capital is about 130km away by road from the regional capital Sunyani and lies east of the BAR Capital. The Municipality has a surface area of about 5,108km², thus occupying a land area of about 12.9 percent of the total land area of BAR (39,557km²) (www.kintampo.ghanadistricts.gov.gh). In terms of location and size, the Municipal is located almost at the centre of Ghana and serves as a transit point between the northern and southern sectors of the country. The Kintampo Municipal Assembly is one of the agrarian municipalities in the BAR and comprises many farming communities with nucleated type of settlements, except in a very few cases.

The Kintampo North Municipal Assembly has a population of 95,480 comprising 48,178 female and 47,302 male populations (2010 PHC; GSS 2013). The Municipality is a net receiver of immigrants. About 48 percent of the total population surveyed was immigrants, mainly from the northern part of the country. These migrants mainly came in as settler farmers. They settled along the trunk road that runs through Kintampo to Tamale but others are scattered over the Municipality.

The Municipality experiences the Tropical Continental or Interior Savannah type of climate, which is a modified form of the tropical continental or the Wet-semi Equatorial type of climate. This is due largely to the fact that the Municipality is in the transitional zone between the two major climatic regions in Ghana.

The mean annual rainfall is between 1,400mm-1,800mm and occurs in two seasons from May to July and from September to October with the minor season (May-July) sometimes being obscured. However, because of the transitional nature of the area, the distinction between the two peaks is often not so marked. The mean monthly temperature ranging from 30°C in March to 24°C in August with mean annual temperatures between 26.5°C and 27.2°C. These conditions give rise to sunny conditions for most parts of the year. Relative

humidity is light varying from 90 -95 percent in the rainy season to 75 - 80 percent in the dry season.

The climate of the Municipality has the tendency to change and be inclined more to the drier tropical continental conditions or to the wet semi-equatorial conditions. The rocks underlying the Kintampo North Municipal form part of the “Voltarian formation.” The rocks belonging to this formation are mainly sedimentary sand stone; shale, mudstone and limestone are the principal examples of these rocks. The Kintampo North Municipality which falls within the Voltain Basin and the Southern Plateau physiographic regions is a plain with rolling and undulating land surface.

The southern Voltain plateau occupying the southern part of the district is characterized by a series of escarpments and is endowed with a lot of water resources. The major water bodies include the Fra, Urukwan, and the Nyamba rivers. Others are rivers Oyoko, Nante, Pumpum and Tanfi. These water bodies flow through the west of the Municipality and join the Black Volta at Buipe. The slopes through which the rivers flow have given rise to waterfalls. The relief and drainage, the vast expanse of flat land especially the northern part makes it suitable for large scale mechanized farming.

Soils in the Municipality belong to two main groups; the ground water lateral soils which cover nearly three fifths of the Municipality and the interior wooded savannah zone. The other soil group, covering the rest of the two-fifths of the Municipality is the savannah ochrosols occurring in the south and south- western parts of the Municipality. These soils are good for the cultivation of tubers, cereals, tobacco, vegetable, legumes and tree crops such as cashew and mango.

It is believed that the transitional zone was once forested and that the savannah conditions currently prevailing have been the result of man’s activities. The major trees found along

the banks of major rivers and streams and other areas where the impact of man's activities are minimal. These trees are Mahogany, Wawa, Odum, Onyina, Baobab, Dawadawa, Acacia, and the sheanut.

Cultural Heritage and Customs of the Municipality is unique. There are two main traditional paramountcies in the Municipality. These are the Nkoranzamanhene and the Momanhene. Each of these paramountcies has divisional chiefs under him. Traditionally, Kintampo is under two traditional paramount chiefs. That is, the Nkoranza and the Mo Traditional Councils. According to Nukunya (2003), while the Nkoranzas practise matrilineal system of inheritance, the Mos on the other hand practice double unilineal descent system with landed property inherited patrilineally.

The ethnic composition of the Municipality makes it heterogeneous with the Mos and Nkoranzas being the indigenous custodians of the land. There is however a large proportion of northern tribes which form the third force in the Municipality. There are other tribes such as Akan and Ewes. Festivals celebrated in the Municipality include the Yam and Bush Burning by the Mos, Nkyefie of the Bonos, Damba of the Dagombas and Gonjas, Munufie by the Nkoranzas and Krubi festival by the Wangara settlers in Kintampo.

About 71.1 percent of the population is engaged in agriculture and its related activities as their main economic activity. The remaining 28.9 percent are distributed among commerce, industry, and services. Agriculture which is the major economic activity constitutes the main source of household income in the area. The major food crops produced in the area are cereals (maize and rice), root and tubers (yam, and cassava), and vegetables (tomatoes and onion). Mango and cashew are major tree crops produced and which have the potential to increase the incomes of farmers. The Municipality has weekly markets at Kintampo, Babatorkuma, Dawadawa, Gulumpe, and New Longoro which falls

on every Wednesday, Sundays, Fridays and Saturdays respectively. Though these markets exist, it is only Kintampo and Babatorkuma, which has well-constructed structures. All other communities come to these markets to sell or buy their goods.

3.2 Entry into the Field

The field work started with field visit carried out in October 2012. This took the form of separate visits to each study community in October and November 2012. These first visits were self-cognizance ones where the researcher met the Executives of the Mango Growers Associations within the local assemblies. The second visit was at the instance of meeting the General Assembly of the two Mango Growers Associations in Yilo Krobo and Kintampo North. The cognizance was made possible through a network of friends who are members of the Associations. After the rapport and confidence was built between the researcher and the target population in the study communities, the subsequent visits were interview trips that commenced from January, 2013 and ended in July, 2013.

The criteria for selecting the study communities were based on the following. First, the main tree crop produced in the communities is mango. A search on the Local Assemblies in Ghana who produced mango as the main tree crop is Yilo Krobo and Kintampo North (<http://yilokrobo.ghanadistricts.gov.gh>, [www.http://kintamponorth.ghanadistricts.gov.gh](http://kintamponorth.ghanadistricts.gov.gh)). This condition is believed enhances comparism of how intense production, state attention is given to farmers in the two areas, the influence of policy on the farmers, and level of dependency.

Second, the study areas have different geographical features. Yilo Krobo and Kintampo North have different geographical location and features. Yilo Krobo is in the southern savannah zone, closer to the coast of Ghana while Kintampo North is situated in the

middle transitional zone of Ghana. Therefore in terms of geographical location the two areas are different. The difference is able to influence how close the farmers are to fruit processors and exporters, infrastructure development, access to farm inputs, and cost of doing business. Again, the rainfall and relative humidity pattern in the two areas are different. The mean rainfall in Yilo Krobo stands between 1,200mm-1,600mm and that of Kintampo North is 1,400mm-1,800mm (www.ghanadistricts.gov.gh)

Relative humidity in Yilo Krobo is 60%-93% annually and Kintampo North is 90%-95% in the rainy season and 75%-80% in dry season, and temperature in Yilo Krobo is minimum 24.9°C to 29.9°C and that of Kintampo North is 26.5°C -27.2°C but falls to 24°C in August and rise up to 30°C in March (www.ghanadistricts.gov.gh). Third, the two study areas have different descent systems and this enables the study determine how that influenced land acquisition, labour organization, and inheritance. The descent category practiced in Yilo Krobo is patrilineal descent system (Nukunya 2003:29). The Krobo society transmit property particularly land through the rule of '*primogeniture*' (Nukunya 2003) where property is inherited by the eldest son and utilized by his other male siblings in a monogamous marriage. In a polygynous family the land is shared and inherited by the eldest sons of each woman for the use by his male siblings. Also, unmarried daughters with male sons are given land to subsist on (Nukunya 2003).

The descent category found in Kintampo North is 'mixed'. The Nkoranza Brong are a matrilineal descent group (Nukunya 2003:33). The Nkoranza Brong are considered as Akan therefore they transmit property through the female (mother) line usually from the mother's brother. The Mo society is a double unilineal descent group. As a double unilineal descent group, the individual inherit from both of the parents. However, land is inherited patrilineally while movable property like animals and shrines are inherited matrilineally (Nukunya 2003:36). Based on the description of the descent system of the

two study communities, Yilo Krobo area in this study is classified as homogenous while Kintampo North area is classified as heterogeneous. Fourth, the study communities have Mango Growers Associations. This is because it is government policy to use the Mango Farmers Association as the medium of communication and channel for resources and input distribution to smallholder farmers. The rationale for these criteria for selecting the study area is to enable the researcher compare the communities with respect to their social organization of production, the influence of policy on production, level of dependency and development.

3.3 Type of Study, Approach to Study, and Selection of Sample

The study is qualitative research which is aimed at obtaining firsthand information about the empirical events (Chadwick, Bahr and Albrecht 1984:206) in the mango industry and also a description of activities of a group of people who are mango farmers. The study is qualitative research because it seeks to provide a full and in-depth account of the social organization of the mango industry and the policies that are put in place for the implementation of horticultural crop sector in Ghana. This qualitative data enable the researcher do a transcription of interviews in which people within the industry describe and explain how they go about their legitimate activities and their interrelatedness and dependence.

The qualitative method is chosen because of the nature of the topic (Chadwick, Bahr and Albrecht 1984) which demands closer interaction with the sample population and this needs an in-depth description of events or activities that take place in the production, processing, and export of mango products. Further, it is also chosen to establish the validity of the social action of production, distribution, and allocation of resources in the industry through vivid description of empirical events. Qualitative study involves in-depth interviews (Creswell 2007; Chadwick, Bahr and Albrecht 1984), a situation that enables

inter-personal contract and is as such time consuming. Therefore, qualitative research made it practicable for the selection of a relatively small group of people/respondents to make it possible for the researcher to cover many grounds on the topic. Information is also sourced from secondary documentary sources in the course of the study.

The research strategy for this qualitative study is the case study approach. The purpose is to examine factors contributing to the development of the Mango industry (Cargan 2007:204). This strategy enabled the study explain and describe in-detail the characteristics of a single unit, group, and community (Berg 2007:283-299). The case study approach allows for data gathering technique such as in-depth interview and analysis from documentary materials (Cargan 2007).

This is a study of mango farmers in two districts in Ghana, Yilo Krobo in Eastern Region and Kintampo North in Brong-Ahafo Region. However, the target population is mango farmers who are in farmer based organizations based in the districts. The focus on mango farmers in FBOs is based on two propositions contained in Ghana's Food and Agriculture Sector Development Policy (FASDEP). First, the state believes that the FBO is the appropriate channel or conduit to enhance small-scale farmer's access to services such as finance, subsidized farm inputs, skills in good agricultural practices (GAP) and extension services (MoFA 2009) through network of activities. It is possible to reach several dispersed and unorganized mango farmers to pass information on issues affecting the mango industry. Second, the state proposed that through FBOs, both small-scale and large-scale farmers can integrate in order to enhance their economies of scale in the supply of fruits to exporters and fresh fruit processing companies. There are stringent production requirements and farm certification for good agricultural practices (GAP) in the export of mango. The traceability requirements are met mostly by farmers in FBOs. It is on this basis that only mango farmers in mango growers' association/organization were involved

in the study. The farmer based organization is therefore inconsequential to study especially in access to land, capital, labour, and input and in some instances marketing. There was also a focus on the nature or scale of farming (small-scale and large-scale) the individual farmer was operating. Small-scale and large-scale farmers are distinguished based on their resource constraints, vulnerability and productivity which have the propensity to affect their farm size, technology use, managerial skills and productivity. Small-scale farmers dominate agriculture production in Ghana (MoFA 2010). Their average holding is about 1.2 hectares, characterized by limited use of technology (fertilizer, insecticide and machines), labour intensive, low productivity and inefficient managerial skill (MoFA 2010:20; Anaman 1988). In the FASDEP the state proposed that the resource constraint farmers will benefit from some intervention to reduce their vulnerability in order for them to increase their productivity (MoFA 2009). The same policy seeks to support large-scale farmers to be competitive in the global market and be off-takers for mango fruits from small-scale farmers to achieve economies of scale in the supply of fruits. It is contingent on the policy provisions in the FASDEP that the study distinguished the farming types to investigate how their respective needs are met.

In sampling the respondents, the researcher used a non-probability sampling techniques of snowballing and purposive sampling methods. These selection methods are in tandem with qualitative study and case study strategy (Creswell 2007; Chadwick, Bahr and Albrecht 1984). This is because the outcome of the study may not be generalized due to the representativeness of the population. Also because where in-depth descriptions of events are sought, only a small sample is preferred for practicality.

The snowballing method enabled the interview to start with known farmers who possess the characteristics of the sample units (Macionis 2003; Kandell 2006). The first farmer served as a link person who then introduced the researcher to other farmers who possess

the sample characteristics. The snowball technique enabled colleague farmers identified farmers who satisfied the selection criteria to provide the needed information for the study. The snowballing method was useful for this study because when there was no new information supplied by additional unit, the interview section and the sample size was sealed. This design was chosen because the executives served as the principal link to other members of the Mango Farmers Associations/Organizations who were easily approached. The snowballing sampling got the required number of farmers based on respondents who typified the view of the sample universe, who have satisfactorily fulfilled the stated criteria for selecting the study area, who possess the characteristics relevant to the research objectives and those who are deemed representative enough of the view of the farmers (Frankfort-Nachmias, et al, 1996; Twumasi 2001; Kumekpor 2002). The snowballing sampling method provided easy access to the respondents who are widely scattered but possess the characteristics useful for this study.

The purposive sampling method was chosen because the study focused on mango farmers who met the criteria for producing exportable produce, such as being a member of FBOs, one whose farm is certified for complying with global Good Agricultural Practice (Global GAP), and those who sell their produce to either exporters or fruit processors. Again, the study chose the purposive sampling method because it targeted fresh fruit processors who buy mango fruits from certified mango farmers who belong to FBOs in the two study areas. The prime determinant in the selection criteria is farm certification for compliance with global good agricultural practice (Global GAP). The purposive sampling technique enables the selection of key government officials and representatives of agencies who come from the stock of development partners. The snowballing and purposive sampling methods were response driven, that is those who consented were included in the sample.

3.4 Sample Frame, Sample Size and Unit of Analysis

The sample population consists of stakeholders in the mango industry which is divided into three categories. They are farmers, processors and key state officials. The farmers are made up of the individual mango farmer who is a member of a Farmer Based Organization (FBOs) in the study communities. The target population within the fresh fruit processing company are people who perform certain special functions such as agronomists, purchasing/marketing officers, production officers, and human resource officers. The researcher also sampled some key officials from the MoFA and development partner agencies like GIZ.

The sample frame of farmers in the study areas is made up of people on the nominal roll of their respective FBOs in Yilo Krobo and Kintampo North. The list of active association members of the Yilo Krobo mango FBOs at Somanya was 65. In Kintampo North, the list of active members was 46. The sample units in the processing company were selected purposively based on their job specialization and needs assessment.

A total number of forty-three (N=43) respondents was sampled and the composition is structured as follows. First, the sample size of farmers selected from active members of FBOs in the study areas was thirty-two (n=32). It is worthy of note that the total active members in the two study areas was one hundred and eleven (111) which is made up of 65 and 46 from Somanya and Kintampo respectively. The selection of the sample in each study area was based on homogeneity or heterogeneity of the descent system. As a result of this indicator, the Yilo Krobo study area was deemed to be homogenous based on the descent system because the society practices patrilineal descent system and inheritance. Land passes from the father to the children through the elderly sons (Nukunya 2003:29). Again, land is a major factor of production without which production would be impossible hence access to it is important for this study. Twelve respondents were selected from the

65 active members of the FBOs in Yilo Krobo which is equivalent to 19 percent of members of the Mango Farmers' Association/Organization. The number was arrived at after reaching the saturation point and realizing that no new information is being added by subsequent interviewees so a pattern have been established in their responses.

In Kintampo North, the community is heterogeneous. This is evident from the composition of the Mo and Nkoranza ethnic groups within it. The Mo people are double unilineal descent group and landed or movable property is patrilineally inherited while movable ones are transmitted matrilineally (Nukunya 2003:36). The Nkoranza on the other hand are matrilineal descent group and inheritance is through the female line (Nukunya 2003:33). In Kintampo North, 20 respondents were selected from the 46 active members of the FBOs which is equivalent to 44 percent of the respondents.

The study aims at having good enough representatives of the mango farmers in the two study areas and the farmers were selected based on some criteria. First are farmers whose farms are five years or more and are harvesting fruits. Second, farmers whose farms are global GAP certified. Third, farmers who are permanent residents in the study community, spend five days in a week in their farming community and fourth, at least two executive members from each of the mango FBOs in the study areas. Also included in the sample is one of the Agro-Business Development Manager of Made Ghana Commercial Mango Growers Association (COMANGA) stationed in Sunyani in the Brong-Ahafo Region.

Four (4) specialized skill personnel were selected from Blue Skies Fresh Fruit Processing Company. They are from the Agronomy, Production, Procurement/ Logistic, and Human Resource Departments of the Company.

Five key officers were selected from government agencies such as Ministry of Food and Agriculture, Plant Protection and Regulatory Services Division (PPRSD), and Ghana Standard Authority. Finally one officer from GIZ was selected.

Theoretically, composition of the samples selected are segmented as follows: mango farmers represented production community at the periphery, the state official key informants represented the state at the local assemblies and national levels, and the samples from agencies of development partners represented officials from the developed countries (core). The rationale was to examine the contribution of stakeholders to determine the level of dependency and how that impacted on development.

3.5 Data Collection and Management

There are several data collection techniques that social scientists use in the collection of qualitative data. One of which is in-depth interview (Haralambo & Holborn 1991:735). The study used the in-depth interview technique which takes the form of conversation between two persons initiated by the interviewer purposely to elicit relevant research information through systematic narration and description of events by the interviewee. There are two types of interviews. These are structured interview and unstructured interview. Since the study is of an exploratory nature, the researcher used an unstructured interview schedule. The unstructured interview schedule enables the researcher have pre-select themes and areas that are of interest to the topic and the topic's objectives (Creswell 2007; Chadwick, Bahr & Albrecht 1984). By the use of this technique, the interviewer commences with the interview and progresses naturally in a conversational manner. The interviewee is directed for consistency only when he/she is unable to cover areas which are relevant to the topic under investigation. The interview was conducted in three languages and these are Twi, Ewe, and English at the request of the respondent and the competency level of the researcher.

Data management commenced with the transcription of the field voice recordings after which the transcribed data was edited. The editing was done to find out whether questions for the various specific interest areas were answered properly. The editing enabled the researcher to identify and notice the systematic ways in which responses were given to certain research objectives. As stated in Twumasi (2001:79) such activity would establish a trend or pattern of the phenomenon under investigation.

The next step in the data management was coding of the edited transcript. This was important because it gave the researcher the opportunity to code the responses according to variables and themes in order to establish the frequency of the detail verbal description of certain variables, concepts and themes by the respondents (Creswell 2007; Chadwick, Bahr and Albrecht 1984:346). Interviewees' statements about the variables and themes were put in few words and quotations.

3.6 Method of Analysis

The first study objective is to examine the social organization of mango production in Ghana and the variables that fall under this objective are state policy on agriculture credit, liberalization of input supply with the participation of government and private enterprise and the traditional political economy with emphasis on structure and processes of land tenure and land acquisition as well as government policy on land title registration. Next objective is to discuss the marketing of mango fruits and value added products and the focus is on marketing of mango under the state trade and marketing liberalization policy by looking at the structure and processes of marketing mango outside the usual state agriculture marketing board, pricing strategy, marketing channels, processes of exporting mango and mango processing by Blue Skies fruit processing company. Another objective which is to investigate the integration of mango farmers into the export market focus on state policy on multiple extension services delivery by private, state and development

partners; promotion of GAP, crop protection, food safety standards; and coordination between the state and development partners in the provision of social, economic and technical assistance to the farmers as well as the medium through which skills and technical assistance is provided to the mango farmers. On examining state policy on agro-processing industrialization and Foreign Direct Investment (FDI), focus is on examining state policy on tax exemption on machinery and equipment meant for value-addition and exemption of income tax on profit from the fruit processing companies in Ghana. The contribution of the mango industry to the Ghanaian economy as an objective assesses farmers earning from mango production, the living standards of the producers and their dependants and infrastructure development in the study districts and acquisition of skills and technology by farmers.

This study mixed methods of data analysis. I used content analysis, thematic analysis, and interpretative analysis based on my own subjective evidence in the fieldwork. According to Mayring (2000), content analysis involves analysis of concepts and relationship of these concepts to make inferences about the message within texts (interviews). I used content analysis for the first three objectives. The first objective was to examine the social organization of mango production in Ghana. The analysis focused on government policy on provision of agricultural credit, input supply and traditional processing of acquiring agricultural lands. The essence of using content analysis of the policy was to examine whether government policy of credit support and input supply is being implemented and its impact on mango farmers. In this regard, then, the analysis was compared with the farmers own accounts during the field work. That said, the idea is not just about juxtaposing what the farmers said or did not say against what the policy is. Rather, the physical evidence is in the expansion of farm sizes and the farmers' infrastructure development in the farming communities studied. With regards to the integration of mango farmer into the export

market, the rationale was that government proposes that because of the dwindling fund for extension services, farmers can access extension services from multiple sources. i.e. MoFA's extension services staff and from development partner agencies such as GIZ and USAID. Therefore using content analysis was to investigate whether farmers are given technical and skills assistance that would enable the farmers produce to meet global food safety standards by juxtaposing the farmers response against the Food and Agricultural Sector Development Policy. For example I investigated the technical and skills assistance and the medium through which these assistances come.

Analysis of state policy on agro-processing industrialization and foreign direct investment (FDI) examines two state policies on: (1) exemption of import duties on imported agro-processing machines and equipment and (2) exemption of tax on profit of processing companies operating under Free Zone Enterprise Act (Act 504). Here, the analysis was based on the frequency of recurring details in the responses of the officials interviewed, i.e. the processing companies. Although the analysis was content based, two themes guided the analysis of the 'quotes' .i.e. tax (which can be expressed in varied ways) import duty and tax on profit. For the objective that deals with the marketing of mango fruits and value added products, thematic analysis was used. Thematic analysis involves 'capturing of important themes about the data in relation to the research questions and represents some level of pattern or meaning within the data set' (Braun and Clarke 2006) Themes were developed from the existing literature. Five main themes emerged i.e. marketing channels, pricing, purchasing, marketing and export of mango. The essence of using these themes was to do discussion of the findings in relation to the theory used-dependency. Although some of the reports do not necessarily fall into these five themes as indicated, it is hoped that future work including peer review papers will analyze those new emerging themes in details with regards to the theory used, i.e. dependency theory.

Lastly, I used “interpretative” paradigm which involves understanding phenomena through assessing the meaning participants assign to them and interpreting as fully as possible the totality of whatever is being studied in particular contexts from the people’s view point or frame of reference (Leining 1985). The interpretative analysis of the contribution of mango industry to the Ghanaian economy is based on the results of: the social organization of mango production; the marketing of mango and value added products and the extent of integration of farmers into the global export market. The analysis here though not ‘statistical’ (this is a possible limitation to the study) some of the evidence such as increase in farmers’ income (based on the trust of respondents) and infrastructure development in the mango producing communities as evident in MiDA’s packhouse building built at Akorley near Somanya and feeder road networks constructed in Yilo Krobo and Kintampo North. Here I cannot claim a content analysis or a descriptive nor statistics. What is evident is that the analysis of this objective was based on the researcher’s ‘subjective’ interpretation based on ‘real’ evidence in the study areas.

CHAPTER FOUR

4.0 THEORETICAL FRAMEWORK

Introduction

Global inequality and poverty challenged social scientists to find out the historical, social and material bases for unequal development so as to forge sustainable development in the relatively underdeveloped countries (Webster 1988:41). Two major theories emerged in the development discourse in the 1950s and 1960s and these were modernization and dependency theories (Webster 1988). The modernization theorists attributed the underdevelopment of agrarian societies to their internal dispositions such as over-reliance on unrewarding traditional social system that does not encourage innovation (Gross 1992:497). Modernization theorists suggested that unless the agrarian societies modernize their production and social organization through diffusion of ideas from the modern societies into their traditional societies, they (the traditional societies) for a long time will be condemned to their fate.

The dependency theorists on the other hand, attribute the underdevelopment of agrarian societies to situational causes. These theorists are of the view that development and underdevelopment are tied together by dependency relation (Gross 1992:502). The dependency theorists argue that the core industrial countries developed due to their opportunity to exploit the resources of the less developed countries and increase their wealth at the expense of natural resource endowed societies.

Several scholars of Marxist persuasion considered the European capitalist exploitation of Africa, Latin America and South-Eastern Asia as responsible for the endemic inequality, poverty and dependency on capitalist commercial organization of production and trade (Webster 1988; Frank 1969). Webster espoused the views expressed by Marx that unequal development within and between societies as a result of expropriation of the surplus value

of goods generated through the energy of labour was exploitative and the capitalist exploitation phenomenon that originated from Western Europe subsequently spread across nation's space and geography (Webster 1988).

The choice of the dependency theory as a theoretical framework is informed by the historical analysis of the metropolis – satellite capitalist structure of commerce (Frank 1969. Xii). This event involved several Third World countries including Ghana (Gold Coast) as agrarian raw material and resource-endowed satellite centres which are exploited by the European industrial Metropolis. These phenomena perpetuated the dependency of the former on the later and promoted underdevelopment at the peripheries of the satellite.

The classical dependency theorists developed the dependency theory in the 1950s and the 1960s and it was used to trace and analyze the historical pattern and processes of production and trade between agrarian societies and the capitalist economies, a relationship that tied the former to the latter's market centre and made the agrarian societies dependent on them (Frank 1969).

4.1 Classical Dependency Theory

The dependency theory is a model that focuses on the structure of capitalism, a system that integrates the world economy with individual nations and their domestic economy into a relationship that was categorized differently by Prebisch (as stated in Frankenhoff 1962) and Frank (1969). Frankenhoff (1962) stated that it was Prebisch who first classified societies into industrial centre and periphery (Frankenhoff 1962), later Frank also classified them differently. Frank called the colonized states satellite and the capitalists' colonizers he referred to as metropolis (Frank 1969: xii). As the Executive Secretary of the United Nations Economic Commission for Latin America (ECLA), Prebisch, according to Frankenhoff (1962), categorized the world economy into industrial centres and peripheral

countries that produce low value primary goods. These categorizations were based on the empirical uneven technical progress in industrialization and income disparity.

Frankenhoff (1962) suggested that a country could be in a better economic position if it combines agricultural production with industrialization. To buttress the argument, according to Frankenhoff, Prebisch used Latin American economies that depended mainly on agricultural products and industrial raw materials.

Prebisch's proposition of the dependency theory had identified the underlying causes of underdevelopment to be that even though it was the periphery countries that produced and did supply the needed raw materials that fed the industries of the industrial centres, they do not benefit from the wealth and profit that accrued to the centre (Frankenhoff 1962). As a consequence, people at the periphery were confronted with low productivity and savings.

Frankenhoff (1962) classified Prebisch's development theory of dependency into three variables "Export-import relationship between the periphery and the industrial centre, distribution of industry, and price elasticity between agricultural and industrial (capital and consumer) goods".

The detailed description of Prebisch's variables showed that industrial centres are able to save their earnings from the sale of consumable goods for re-capitation of industries. However, the peripheries save an insignificant portion of their earning. The end result is that when those prices of industrial goods are increased, the periphery spent significant amount of their national income on capital goods from the industrial centres depriving them from development projects at the periphery.

According to Prebisch, technical progress (industrialization) for processing and application of machines to production is a necessary ingredient for economic development

(Frankenhoff 1962). Empirical evidence showed that invention of machines and their use for mass production and efficiency, emanated from the centre and slowly spread to the periphery (Frankenhoff 1962). Prebisch also observed that “prices of goods at the industrial centres are relatively stable because trade unions and corporations are able to control the fall of price of industrial goods”.

However, prices of primary export highly fluctuate on the world market. Therefore the lack of control over prices of primary goods at the periphery consequently affects the ability of periphery countries to save enough money for future development.

Frank's (1969) thesis of capitalism and underdevelopment in Latin America was an historical study of Chile and Brazil that looked at the system of capitalist development and how that phenomena generated underdevelopment in the peripheral satellite. Frank classified the capitalist system into two poles: one, the metropolis centre and two, the peripheral satellite (1969:6). Frank stated further that the metropolises were developed at the expense of the periphery because they prey on the economic surplus generated in the peripheral satellites. As a consequence, the economies of the peripheral satellites were exploited and underdeveloped. This is how Frank explicitly puts it, “the metropolis expropriates economic surplus from its satellites and appropriates it for its own economic development. The satellites remain underdeveloped for lack of access to their own surplus.....” (1969:10).

The polarity of the capitalist system between the developed metropolis and the underdeveloped satellite, according to Frank, permeates the entire metropolitan world centre through to the various national, regional, and local domestic/district levels (Frank 1969:10). In the structure of Frank's dependency and underdevelopment, the national metropolis of a country has as its periphery satellite the region and district/domestic

communities. The regional metropolis has under its purview the district/domestic communities as its peripheral satellites (Frank 1969). It is emphasized that just as the national satellites suffer underdevelopment and became dependent on the metropolitan centres', so also the districts satellites suffer most limitations and deprivations in income and social infrastructure development. It is this increasing dominance of the metropolis over the satellite that made the satellite dependent and underdeveloped. It is so because once the metropolis-satellite relationship is established, its exploitative structure is firmly entrenched (Frank 1969).

In debating the dependency discourse, Frank suggested that the main pivot on which the metropolis-satellite dependency hinges on is the monopoly power and control of the export sector by few officials of the metropolitan centre (1969:17). Thus foreign capitalist owned or controlled the sources from where economic surpluses are generated. The export sector is one of sources of generating economic surplus in the satellite states. These are the sectors which few European merchants and entrepreneurs have invested in. Examples are the mining, storage, transport, and insurance sectors all associated with the export economy of the satellite states. By this virtue, capitalists appropriate profits accruing from the satellites to the detriment of the resource-endowed satellite communities. To be specific, he stated that:

Foreign capital represented by few officials from the metropolis owned and control large plantations, exercised monopoly power over buying of agricultural products and its resale, control storage facilities, control the provision of productive factors necessary for the export goods (1969:18-9).

Frank (1969) illustrated how farmers in the satellite states depended on the international capitalist economy. He stated that a hired worker depended on the tenant farmer for his survival. In the same vein, the tenant farmer equally depends on the feudal lord at the local level. At the District levels, the landlord who owns the produce from the tenant farmer

depends on the wholesaler at the regional capital. The regional representatives of the Multinational Company (MNC) depended on the national financiers and merchants at the national level. Ultimately, the merchants at the national levels also deferred to their international financier in the metropolitan core. At each of these nodes, there are links of dependency between the periphery and the core.

Webster (1978) attributed major part of his study on dependency of Least Developed Countries (LDCs) on developed countries to technology and commerce. The market at the core serves dual purpose. On one hand it is the nerve centre of machines and technologically manufactured agrarian equipment (input) for the LDC. On the other hand it is the market for agricultural raw materials. In each case, the price is fixed by the capitalist at the core market. The pivot of underdevelopment through technology and commerce as it is visible in the social and economic lag of the peripheral communities, arose because the metropolis exploited the economic surplus from the satellite for their own advancement while the satellites lack access to their own surpluses for development.

4.2 Dependent Development Perspective of Dependency Theory

Dependent development theorists emerged as the second variant of dependency theory and the main proponents are Evans (1977, 1976) and Gereffi & Evans (1981). Evans's (1976; 1977) studies differentiated between dependent underdevelopment and dependent development.

First, Evans (1976) described dependent underdevelopment as a classical dependency where peripheral agrarian countries served as sources of primary products that were supplied to the industrial centres in one vein and in another, were consumers of manufactured goods churned out in factories located in the industrial core. In a related study, Evans (1977) viewed dependent development as a transition from the classical

dependency where a peripheral state no longer exports natural resources in their raw states to the manufacturing industries in the industrial centres.

The studies of Gereffi and Evans (1981) discussed dependent development as a process where a peripheral country continues to be dependent on the core capitalist's financial institutions for support and subsequently exhibits a marked characteristics of gathering wealth (technology and money) internally in an increasing quantity in an attempt to produce more consumer goods and by this act diversify the country's internal production structure.

Evans (1976) illustrated how a peripheral country like Brazil in the 1920s to 1940s began the transition from a dependent underdevelopment economic status to a dependent development economy by focusing on Brazil's coffee commodity which used to be its primary export commodity in the latter part of 1800s to the early decades of 1900s. According to Evans (1976) Brazil's coffee economy became the main bridge that linked the state to Britain and other European industrial centres in the international political economy of commodity trade. The transition in Brazil economy as suggested by Evans was due largely to the trade in coffee commodity which created a fertile ground for amassing surplus (profit) in relative proportion between Britain and Brazil. It was this phenomenon that engendered accumulation of capital (technology and fund) among the Brazilian elites who initiated the building of internal manufacturing industries that were geared towards the manufacturing of consumable goods and thereby reduced Brazils import bills of consumer goods.

Evans' (1976) study illustrated how the economy of Brazil transited from classical dependent economy to dependent developed economy in the 1920s and 1930 to the 1960s and 1970s. Factors that accounted for the transition he chronicled as first, large scale

production of coffee. Second, there was control of the local coffee export by the local elites. Third, was high demand for the coffee produce. Fourth, there was construction of key infrastructure in the local economy at the interior of the periphery to spur on development. Fifth, there was favourable state economic policies and ideology. Sixth, there were multiple competitive trading partners and well developed local entrepreneurs. Evans described the Brazilian coffee economy as proportionately very large and this was complemented by the high demand for the coffee produce on the world market.

This made it possible for the state and the individuals to benefit from marginal profit even at a time when the price of the commodity declined marginally. Further, it was indicated that the coffee industry at both the production and marketing stages were largely dominated by the Brazilian elites who benefited from the project and thereby reinvested the money/fund in the Brazilian economy.

Evans (1976) stated that the elites in the economy considered industrialization and development as unnatural but rather are realized through conscious effort and ideology. This prompted the local bourgeoisie to structure their economy towards the importation of inputs and machinery in anticipation of a “take-off” of Brazilian industrialization. This ideological shift was supported by the state policies and within two to three decades, indigenous Brazilian industries started manufacturing consumer goods which were hitherto imported from European countries with high exchange bill.

The payment of high foreign exchange bills changed because exchange bill for consumer goods declined while the bill for machinery, equipment, and input for domestic production soared up but for a just course. Furthermore, Evans (1976) stated that funds from the coffee sales were also invested into the development of infrastructure such as railways and road construction throughout the country to link coffee production zones in the periphery

to the industrial Brazilian core. It was through these communications infrastructure that enable the haulage of both manufactured goods from the industry to reach the populace and enhance the transfer of agricultural produce from the hinterland to industry and exit ports for export.

The discussion on change in trading partners centred on the comparative advantage of depending on several trading partners as against depending on only a particular country. Where there are more and dispersed trading partners who deal in diverse products, the hegemony of one state over its trading partner is weakened through the competitiveness of the several partners.

In a related study to establish the trend in dependent development, Evans (1977) researched into the co-operation among major players or stakeholders that yielded the transformation of a peripheral country like Brazil to a semi-peripheral state. Through that he established that the co-operation is between the State-Owned Corporations (SOC), Multinational Corporations (MNC) and the Local Indigenous Control Corporations (LICC).

This tripod relationship saw a deliberate massive injection of foreign capital and sophisticated technology into the Brazilian economy. Evans (1977) observed that the state's economic policy of Public Private Partnership (PPP) was successful because it was built on the following factors: First, the local entrepreneurs set up enterprises which were purchasing petroleum bi-products to manufacture variety of products needed by other local industries. Second, the State made the necessary legislations to enable investment friendly environment for both foreign investors and local entrepreneurs. Third, the MNC then engaged and joined the local entrepreneurs.

According to Evans (1977), through these arrangements on one hand, the MNC were invited with their technology to partner in the management of the local industries. This foreign partnership agreement has also increased the credibility of local entrepreneurs to enter the global financial markets for loans. Besides, foreign participation has the potential of infusing management expertise into the local capitalist institutions. On the other hand, MNCs who are in partnership with the local entrepreneurs were able to secure sources of raw materials and this was how Brazil transited from classical dependent economy to dependent economy (Evans 1977).

The economic exchange relation between European states and their colonies in Africa and other Third World countries is within the context of Colonial Division of Labour (CDL) (McMichael 2012). McMichael argued that under the CDL, the colonies focused on the production of raw materials that could not be produced under the temperate climatic conditions. On the other hand, the colonialists specialized in the manufacture of technology and consumer goods. This relationship fuelled a high spate of industrialization in Europe while the colonies were reduced to supply zones of labour and resources.

The consequences were that forest and fertile lands are exploited for the commercial cultivation of monoculture export crops. In the inter world wars and thereafter, most colonies in the tropical zones which export raw materials suffered from unfair trade practices (McMichael 2012;Frimpong-Ansah 1991). The prices of raw export crops plummeted contrary to the astronomical rise in the price of capital equipment and manufactured goods originating from Europe. To avert the downward developmental trend, most developing countries began Import-Substitution Industrialization (ISI).

McMichael (2012) stated that ISI is an industrial protection policy aimed at controlling the import of expensive European manufactured goods to the extent that funds which would

otherwise be used for imports could be channelled to the setting up of domestic industries that will manufacture consumer goods for the citizens in the colonies. As cost of technology rose, there occurred a further worsening of prices of major export crops. As a result, the industrialization project in the developing countries shifted from ISI to Export-Oriented Industrialization (EOI) (McMichael 2012). To McMichael (2012), EOI is the process where transnational corporation's (TNC) investment and market strategy changed. The TNC relocated their machines to the sources of raw materials where there is cheap labour to produce consumer goods and to nurture and protect the EOIs developing countries gave corporate concessions (McMichael 2012).

4.3 Criticisms of Dependency Theory

Some criticisms of the dependency theory focused on three limitations which they observed as the methodology used in the analysis of national issues, the limitation of the concept on issues of class conflict with its subsequent socialist revolution against capitalism, and the political implication of the theory (So 1990:131-4). According to So (1990) critics of the theory saw the dependency perspective as not doing a scientific analysis of what pertains in the peripheral countries but rather blamed the underdevelopment of Third World Countries on their contact with the Europeans, the exploitation of their resources, and the exchange relationship that led to dominance dependent relation. Also, the critics saw the theory as abstract and only used a deductive approach to the study of national issues and as a result, they have failed to investigate the specific historical development of each particular periphery. The critics therefore accused the dependency theorists as treating underdevelopment as a global phenomenon and had no answers to the occurrences of variation in each specific peripheral country (So 1990:132).

The second criticism was that the theorists have:

Overemphasised external factors as the cause of the underdevelopment of the third world countries (So 1990:132) and neglected the role of the internal dynamics such as class conflict and the state.

Another accusation was that the dependency theory failed to examine the class struggle which the classical Marxists proposed in order to overthrow capitalism but rather, they considered industrialists and the working class in the third world countries to be in cohort with the foreign capitalists and as such are immobile to fight against foreign domination and therefore cannot fight for internal change and promote internal independent development. The critics said that the theory overstated the powers of external forces which were seen as influencing the faith of all peripheries despite local struggle. The critics argued that no matter the force of the domination and its effects, the strategies of domination would “create opportunity for ideas, institution, and technology that could be used by the third world countries to effect change”.

The third criticism was on policy implications of the theory (So 1990:133). The critics were of the view that dependency and development should co-exist because dependency may not entirely create underdevelopment, therefore the proposition by the dependency theorists that Third World countries should stage a socialist revolution to overturn the externally imposed dominance is inappropriate. The critics cited South Korea and Taiwan as former colonies of Japan yet these two countries had achieved steady economic development through coexistence and exchange of ideology, culture and technology. The critics also contended that the extrication of newly independent third world countries from the core state would not automatically engender national development as the socialist revolution suggests.

4.4 Dependency in Agribusiness and Agro-Industrialization in Ghana (1957- 1992)

Classical dependency theorists such as Prebisch, Frank, and Smith argue that the underdevelopment of peripheral countries was largely due to International Division of

Labour (IDL). The IDL focuses on how the peripheral states specialised in the production of industrial raw materials such as cocoa, oil palm, rubber, coffee while the core states were specialised in the processing of the raw materials into finished goods, manufacture of consumer goods, machines, and equipment.

In line with the above suggestion, Asamoah (2001a) argues that with the Africans contact with Europeans, the European merchants acquired lands and introduced plantation agriculture and through the assistance of the colonial administrators, forced labour was used on plantation owned by Europeans. Therefore from the beginning, the large export crop plantations were not owned by the Africans but rather the foreigners and some of the local chiefs who were their protégées enjoyed the profits from such trades. So, some African countries including Ghana never had large-scale plantations which would enable an appreciable number of the citizens to benefit from economy of scale as was the case of Brazil. Again, the small-scale farmers who were engaged in the production of export crops depend on tools and equipment from the core state to expand their farms and they also depend on the manufactured goods from the industrial states.

The classical dependency literature indicated that it is the core states that set the prices for both the export crops and the imported manufactured goods, equipment, and tools and that trade relationship situation favoured the industrial states than the peripheral countries hence the inability of the peripheral countries to accumulate capital for their internal economic development.

In Ghana, export and import of export crops and production goods were controlled by MNC such as UAC and Cadbury Brothers Ltd. It was the identification of these weak structures in the IDL that the classical dependency theorists like Prebisch advocated the Import Substitution Industries (ISI) to process and manufacture items and goods hitherto

imported from the core states in the peripheries in order to reduce cost and retain the surplus value in the periphery, save it, and use it for further development projects. However, the core states have realised that the new independent states like Ghana were setting up their own industries in the periphery shifted from the manufacture of consumer goods to the manufacture of production goods such as machines and equipment that were used to expand and exploit raw materials and also used for the manufacture of consumer goods (Hoogvelt 1997; So 1990; McMichael 2010). The consequences was that third world countries which are newly independent countries have to pay for these machines and equipment through trade-offs and this situation created balance of payment deficit (So 1990:94).

In Brazil and other Latin American states, land was owned by merchants, the Catholic Church, and the state and therefore several land reforms enabled the elite class to enter into large scale agricultural plantation (Asamoah 2001a). However, in Ghana, land is communally owned and controlled by families and traditional authorities. The land tenure system in Ghana made large-scale industrial crop plantation very difficult. Coupled with that, Ghanaian farmers operate dual agricultural economy and by that, they cultivated export crop for income revenue and produce staple crops for subsistence and therefore are not very committed and specialized in the production of monoculture.

Even after independence when attempts were made by the state to enter into plantation agriculture, in Ghana, the traditional land tenure system with its associated legal court suits became a stumbling block for large-scale production. The repercussions are that the peasants and the state could not benefit from economy of scale during the boom periods in 1946 to 1954 and 1972 to 1986 (Dzorgbo 2001). Even though the world price of agricultural export commodities such as cocoa, rubber and coffee rose, Ghanaian farmers have not benefited from such a boom because the peasants who produce these crops have

abandoned their farms and those closer and nearer to neighbouring countries like Togo and Cote d'Ivoire smuggled the produce since the price in these countries were comparatively higher than in Ghana.

Unlike in Brazil and other Latin American countries where both production and marketing of coffee and other export crop trade was dominated by the local elites and entrepreneurs, in the case of Ghana, production of cocoa, coffee, rubber, and oil palm in both the colonial and immediate post-colonial eras were dominated by the peasant farmers who used tools like cutlasses and axes in production and some of the farmers also lack scientific farm management skills.

In Ghana, the purchase and marketing of cocoa for export was largely controlled by the European merchants with the assistance of indigenous Ghanaians until sometime in the mid 1940s when the colonial government set up the marketing boards (Amoah 1998; Frimpong-Ansah 1991). The state thereafter controlled the marketing and export of crops and as a consequence, the surplus value from the marketing of the produce went to the expatriates initially and later by the state and that situation led to the marginalization of the local elites and entrepreneur class in the accumulation of capital (Killick 1978;Frimpong-Ansah 1991).

The repercussions of this state of affair was that the lack of participation of the business class in the export crop trade made it difficult to accumulate profit which would have been reinvested in the Ghanaian economy for industrialization. Again, the state used the surplus value from cocoa on social development projects with very few investment on cocoa processing in Takoradi and Tema (Awua 2004), sugar factories at Asutuare and Komenda (7YDP 1964), shoe factory in Kumasi and tyre factory at Bonsaso (Dzorgbo 2001).

Dzorgbo (2001) stated that Ghana's industrialization followed the pattern of Import Substitution Industry (ISI) particularly in agro-industrialization during the post-colonial era because rubber estate and tyre factory were built at Bonsaso; canneries were built at Nsawam for Pineapple processing, Wenchi for mango processing and Pwalugu for tomatoes processing (Dzorgbo 2001:199). The momentum was however, not sustained. The ISI under the Nkrumah regime was almost state sponsored industrialization. However, most of the technology that were imported during Nkrumah's administration were not suitable for the tropical conditions in Ghana, some of the technologies were outdated, and there were no properly trained professionals to maintain and manage these machines and equipment. In conclusion therefore, the absence of technocrats made the ISI unsustainable in Ghana.

The ruling elite and industrialists in the semi-industrial states of Brazil and Mexico were said to have built consensus ideology on industrialization and appropriate policies were put in place to create the policy environment for industrialization. According to Evans (1976) the policy created the platform for private partnership and this led to private indigenes partnering with foreign capitalists and other private citizens or private foreign capitalists partner the state in setting up heavy and light manufacturing industries.

In Ghana, the ruling class and elites have divergent views on industrialization and development. The CPP government led by President Nkrumah based their development ideology on socialism with state control of the economy. His industrial development was to link agriculture to industry through large-scale state farms and the importation of machines and equipment for the manufacture of consumer goods.

The successor regimes such as NLC and Busia-led Progress Party abandoned the socialist ideology of Nkrumah and adopted a capitalist ideology with free market enterprise and by

their economic policy privatized some state institutions such as Bonsaso Rubber Estate and Tyre Factory, Prestia Gold Smelting Factory, and Ghana Textile Printing (GTP) in Tema and left some to waste (Dzorgbo 2001).

Under Acheampong's Special Agricultural Scheme, the government through decrees made policies which favoured state and private partnership in agricultural mechanization and agro-processing. Therefore it could be said that it was under the Acheampong government that the state provided the policy environment for partnership between the state and Ghanaian private investors on one hand, and between state and private foreign investors on the other. Typical examples of Acheampong's agribusiness and agro-industrial policy was the initial institutionalization of the Twifo Oil Palm Production Company and Bonso Oil Palm Production Company which were built together with their processing plants to process palm fruits into oil for use by Lever Brothers Ltd. The SAS was an Export-Oriented Industrialization (EOI). This study suggests that agribusiness and agro-industrialization failed to take off in Ghana due to some related factors such as ideological differences in economic policies and frequent change of governments, state control of trade in export crops, small-scale production of industrial crops which cannot support economy of scale during times of boom, and over taxation of export crops by the state.

CHAPTER FIVE

5.0 EXPORT CROPS DEVELOPMENT, AGRIBUSINESS AND AGRO-PROCESSING POLICIES IN GHANA, 1993-2014.

Introduction

The focus of this chapter is to state policies that government proposed for development of export crops together with agribusiness and agro-processing policies that were enacted. These policies were proposed to influence the production of emerging horticultural export crops including mango. The discussion and analysis of the field data would be informed by these policies.

The chapter opens with a brief discussion on attempts in the 1960s to diffuse the production of mango on a large-scale in Ghana. This brief history highlights the effort and foundation laid by the state to develop the mango industry. It then continues with the Ghana Investment Promotion Act (Act 478), aimed at creating an investor friendly climate for agribusiness to flourish. The final section focuses on Food and Agricultural Sector Development Policy (FASDEP II) which spelt out strategies that are to aid farmers in production, marketing, and integration into the global export crops' market.

5.1 Mango Tree Crop Development Programme in the 1960s

Mango tree crop grew in old and new settlements in Ghana until about half a century ago in the 1960s when deliberate attempts were made by Nkrumah's-CPP-led government to cultivate it on a large-scale for export. Earlier mango varieties grown in Ghana were imported from Trinidad and Ceylon (Abutiata 1988). They are Peter, Blackman, Kingston, Divine, Julie, and Ceylon all of which originated from Trinidad in USA while Jaffna and Rupae came from Ceylon. The Ejura Agricultural Station formerly acquired by the British in 1920 was where the imported mango cultivars were tried and grown (Abutiata 1988).

The Crop Research Institute in the middle of the 1960s imported thirteen new mango cultivars from Miami, Florida in the United State of America (USA) and planted them at Ejura, and Somanya mango museums. The varieties were Early Gold, Eldon, Florigon, Erwin, Jacquelin, Palmer, Ruby, Springfels, Sunset, Haden, Cecil, Carrie and Zill. Later, other varieties were grafted on the local stocks, tried and raised at Kwadaso. Subsequently they were planted at Somanya, Kintampo, and Ejura in 1968-9. The grafted varieties were Alphonso, Yellow Bombay, Haden and Keith (Abutiate 1988).

In developing the production of mango in the 1960s, research was conducted into soil and climatic conditions of the crop, the diseases and pests which can affect its production as well as the average yield per hectare each of the variety.

Literature available on early development of large-scale mango production for export focuses on the foundation that was laid for mango production in Ghana (Abutiate 1988). The policy centred on the introduction of appropriate mango varieties suitable for the climate and which had high value in the global market; multiplication of seedling stock for distribution to farmers; diffusion of mango production into vegetation zones that have comparative advantage in its production; and finding remedy for mango pests and diseases. On the backdrop of the foundation laid for mango production in the 1960s (Abutiate 1988), the current study focuses on government's food and agricultural sector development policy that influences the mango industry.

5.2 Food and Agriculture Sector Development Policy (FASDEP II)

This section is on food and agricultural sector policy on variables such as agriculture credit, input supply, extension services provision, crops protection regulation, institutional coordination, and farmer integration into the global market.

The agriculture sector in Ghana plays a major role in food security, employment, supply of raw material to industries, foreign exchange earnings, poverty reduction and mobilization of social groups. It is for these significant roles that the state and agencies focus on developing the sector, make it better and profitable for farmers in Ghana.

Successive governments and political parties in Ghana have identified obstacles in food crop development. These obstacles are weaknesses in human resources particularly farmer education and farm management skills; adoption of agricultural technology in the use of agrochemicals; inadequate infrastructure such as road networks, storage facilities and access to export markets. Others are access to agricultural credit, land, extension services which hinder, confront, and retard the growth of the food crops industry.

To stem the tide of low productivity which is a function of limited access to agricultural credit, inputs, extension services, post-harvest losses, and poor communication infrastructure, the Food and Agriculture Sector Development Policy has prioritised increase farmers access to improved technology, agricultural credit and infrastructure development, ensure that capacity of farmers are built to meet greater competitiveness and better integrated into the regional and international markets (MoFA 2009). (MOFA 2009:12).

Having looked at the general agricultural policy of the state, the study now centres on specific variables and how the policy proposes farmers access to them for mango production. The variables that are discussed below would form the bases of political economy of the study by assessing the influence and impact of government policy on these variables on the mango industry.

In the organization of production, agricultural credit is a very important variable for the growth of food crop production. Producers need a variety of financial service at particular

period of their production such as land preparation, procurement of inputs, farm maintenance, and haulage of farm produce to the market centres.

Delay in and limited access to agricultural credit and often non-payment of agricultural loan have been identified (MoFA 2009:34). To alleviate the challenges government and producers face, the state has instituted a fund called Export Development Investment and Agricultural Fund (EDIAF 2009). The EDIAF is funded from 0.5 per cent tax on cost, insurance and freight value of import of non-petroleum product (EDIAF 2009). The fund was established by Act 582 in October 2000 to provide financial resources to develop the production of export crops and promote export trade in Ghana. However the fund's operation started in July 2001 (EDIAF 2009).

Second, agricultural inputs are the next variable in the organization of production. It was government policy to liberalize the inputs market by allowing private participation in the supply chain (MoFA 2009:31) and to ensure cost-reduction by establishing input shops in the districts/local assemblies. The liberalization also permits importation and repackaging of input in Ghana to reduce cost (MoFA 2009:32; GIPC Act 1994).

Third, extension services form an integral part of food crops development. The food and agricultural sector development policy identifies inadequate funding of public sector extension programmes. Also there is limited impact of extension services on production due primarily to logistics and limited number of extension agents to cover a large pool of small-scale farmers. The strategies proposed for extension services delivery are: to promote access to multiple services providers from public and private sector, use mass extension methods of information dissemination such as farm field schools, nucleus-farmer out-growers, and radio/television broadcasting.

To integrate farmers into the global market, it is government policy to promote good agricultural practices (GAP) through skills training and building knowledge about the external markets. This will enable farmers satisfy sanitary and phytosanitary standards of importing countries. It is government policy to let “Municipal and district assemblies (MDA) improve roads access, linking production centres to air and sea ports” (MoFA 2009).

Fourth, crops protection is very paramount in reducing crop loss to plant pests including new exotic ones. Export cargoes of pineapple, mango pawpaw, and banana are often rejected abroad because their production failed to meet phytosanitary requirements in those countries (2009). It is the policy of government to “strengthen surveillance of plant pests and diseases, strengthen regulatory and protection services and field surveillance of pesticide sale and use” (MoFA 2009).

Fifth is institutional co-ordination. Government had dominated the provision of agricultural services over the years but now recognized the potentials of private sector in investment and management in agricultural services delivery. Government realized that weak coordination between the state and donors led to unnecessary overlap in projects (MoFA 2009). To strengthen co-ordination of activities of donors, it is government policy to “mainstream donor activities into the Ministry of Food and Agriculture interventions in order to complement each other” (MoFA 2009).

The Food and Agriculture Sector Development Policy (II) in substance and nature, from the perspective of this study is a policy that allows public-private partnership participation in the mango production. The study assumes that this partnership is likely to lead to dependent development, a perspective of dependency theory which forms the theoretical

framework of the study. This dependent development perspective will be explored in the discussion and analysis of field data in the subsequent chapters.

5.3 Ghana Investment Promotion Centre Act [(GIPC Act 1994 (Act 478)]

The second state policy which is the focus of this study is the Ghana Investment Promotion Centre Act-GIPC (Act 478) of 1994. This policy set the tone for the state to extricate itself from direct participation in agribusiness environment in Ghana.

In order to promote investment in agriculture and agribusiness, the GIPC Act (Act 478) of 1994 outlined some investment opportunities and incentives for export crop sectors to attract investors. The investment opportunities in the Act (Act 478) are provisions of: agricultural inputs such as agrochemicals (fertilizers, pesticides, herbicides, fungicides); technology and support services which include supply and installation of cold chain equipment; post-production services in storage infrastructure, packaging facilities and cold vans, standard training and farm certification and agricultural finance.

To give meaning to the investment opportunity for agribusiness, the policy in the GIPC Act (Act 478) provided for the following: business adding value to crops produced in Ghana other than their raw state shall enjoy a tax holiday of 3 years from the day of commencement of business. Agribusinesses established in Ghana after 1st January, 2004 shall enjoy a 5 year tax holiday from the date of commencement; and exemptions of duties on imported plants, machinery and equipment. There is also zero rated tariff incentive for agro-input producers and importers, and their plants and machinery.

A cursory look at GIPC Act (Act 478) would be summed up as follows that the policy made provision for tax exemption for companies engaged in value addition and agribusiness. The impact of GIPC Act (Act 478) on the mango industry and how the act

induced investment in the mango industry will be assessed by examining the actors in the agribusiness sector of the mango industry.

5.4 Free Zone Enterprise Act, 1995 (Act 504)

The third government policy that has bearing on the mango industry is the Free Zone Enterprise Act (Act 504). This act was enacted to facilitate the granting of licenses for enterprises who intend to establish and do business in Ghana.

Aspect of Free Zone Enterprise Act (Act 504) deals with incentives for investors. Clause 13 (2a) of the act, has it that “a free zone enterprise shall be free to process and manufacture any foreign or domestic raw material, for export or re-export”.

Clauses in the Free Zone Enterprise Act related to marketing and taxation are as stated below:

Under clause 23(1) The Minister may by legislative instrument authorize the sale of up to 30 percent of the annual production of goods and services of a free zone and single factory zone enterprise to the national customs territory. (2) Sales of goods from free zone enterprises or single factory zones to the national customs territory shall be considered as imports and shall be subject to the rules and regulations relating to imports into the national customs territory.

Clause 28 of Free Zone Enterprise Act (Act 504) focuses on tax exemption stated as follows:

Clause 28 (1) Free zone developers and enterprises granted licences under this Act shall be exempted from the payment of income tax on profits for the first ten years from the date of commencement of operation. (2) The income tax rate after ten years shall not exceed a maximum of 8 per cent. (3) A shareholder shall be exempted from the payment of withholding taxes on dividends arising out of free zone investments (Free Zone Act,1995 (Act 504).

The impact of Free Zone Act, 1995 (Act 504), clauses 23 and 28 on the operation of the Free Zone Companies are discussed in the chapters on marketing and foreign direct investment (FDI).

To sum up, the three government policies have been examined and the rationale for this chapter is to set the tone for the discussion of the political economy of mango industry. These policies are discussed in later chapters on the bases of FASDEP influence social organization of mango production, integration of farmers into the global market, and agribusiness. GIPC Act (Act 478) and FZE Act (Act 504) formed the bases of accessing the impacts of these acts on agribusiness and agro-processing companies in Ghana. Theoretically, the policies would examine the field data to ascertain how private participation has led to dependent development.

CHAPTER SIX

6.0 THE SOCIAL ORGANIZATION OF MANGO PRODUCTION IN GHANA

Introduction

Organization is a social action which involves allocation of resources in an efficient manner to achieve an end result (Firth 1963:36). In view of this, land, agricultural credit, labour, and inputs are resources in the production of export crops in Ghana and allocation of these resources involve social actions. This action involves traditional authorities (chiefs and lineages), the state, and international development partners at one stage or the other in the production process. This chapter centres on the social actions involved in the allocation of and access to production resources in mango production.

This chapter focuses on how farmers organize resources for production of mango in their societies. The rationale for the focus is that social organization of production is an economic activity that requires people to marshal and manage production resources such as land, capital (money and equipment), labour, and inputs efficiently for desired result.

This chapter examines first, the political-social-cultural practices associated with land acquisition in the production communities and its impact on mango production. Second, farmers' sources of fund in mango production, government policy on farmers' access to financial services and its impact on mango production. Third, mobilization of labour is examined to assess the impact of government policy on its organization and how that influences mango production.

The chapter is structured into four sections. The first section is on, organization of land, agricultural credit, labour, and inputs in Yilo Krobo and Kintampo North. The second section centres on discussion and comparative analysis of mango production between Yilo Krobo and Kintampo North. The third section focuses on, organization of mango

production among small-scale and large-scale farmers. The fourth section is a discussion and comparative analysis between small-scale and large-scale farmers.

6.1 Organization of Mango Production in Yilo Krobo and Kintampo North

A total of thirty-two (32) farmers were sampled using purposive and snowballing sampling techniques. This figure was arrived at first, by using snowballing technique to identify farmers who satisfy the study criteria for selection from known mango farmers and through the executives of the Mango Farmers' Organization. Thereafter the farmers were purposively selected based on the person who the researcher deemed most appropriate and have the requisite information on mango production. This section starts with the summation of the socio-demographic details of mango farmers in the study areas with the graphical presentation of table on the socio-demographic characteristic of the farmers put in appendix (A).

Social demographic characteristics of farmers in Yilo Krobo and Kintampo North

The sex categorization of the mango farmers sampled is made up of twenty-eight (28) males and 4 females. The sex of the farmers and their geographical locations indicates that nine males and three females were sampled at Yilo Krobo making the total number of farmers interviewed there to be twelve. In Kintampo North, nineteen males and one female were selected making the total number of farmers interviewed to be twenty. The basis for the sample size from the study areas was that after using the purposive sample technique to select the farmers, and using snowballing technique to get access to the farmers in Yilo Krobo, after interviewing the twelfth person, no different and new information was provided, indicating that the researcher has reached the "saturation point". The situation at Yilo Krobo was not different from what pertains at Kintampo North such that after the twentieth farmer was interviewed the researcher reached the "saturation point" because no new information was added to whatever earlier respondents had stated.

The empirical data on the sexes of the farmers indicated that more men (28) from both study areas) were included in the sample than women (4). This is indicative of the relatively fewer number of female farmers and membership in the mango FBOs in Yilo Krobo and Kintampo North study areas.

Age is another variable that was considered under the characteristics of the respondents. This is so because government, in its agricultural policy, indicated that she would strengthen her human resource in agriculture through the youth who have technical training in agriculture, they would be attracted to the sector by increased access to land, technology and finance (MoFA 2009:32).

The age of the respondents indicates that the modal age of the farmers at Yilo Krobo fall within the age group of 40-49 years, with a frequency of five. None of the farmers were below 40 years; rather, two farmers were between 50-59 years, three were between 60-69 years while two farmers were above 70 years. In Kintampo North, the modal age was between 50-59 years with a frequency of eight farmers. In the age group of 20-29 years and 30-39 years, there was one farmer in each category. The rest were, 40-49 years, four farmers, 60-69 years, five, and 70-79 years was one.

A look at the age structure of the farmers suggested that only one farmer out of thirty-two was a youth aged 26 years from Kintampo North. This is a bizarre situation for the Youth in Agricultural Programme (YIAP) policy of the National Youth Policy of Ghana. This is because the YIAP policy was directed in part to addressing the phenomena of ageing farmer population in Ghana since there is evidence that the average age of farmers in Ghana is 55 years (MoFA 2010) which this study has confirmed. Age has relation with access to land, for example, land is held in the society by the elderly through inheritance (Nukunya 2003), who by virtue of their age (ascribed status) may apportion to themselves

large parcels of land. The older people may further have the financial urge over the youth and the middle age in the acquisition of land for farming against the financially least endowed.

The educational levels of the farmers sampled were classified into three levels and categorized as: University degree, Secondary, and Basic. The rationale for the classification is to ascertain how educational attainment influences the farmer's ability to assimilate research information, extension services, and organize farm production efficiently. Education of farmers' shows that farmers with basic level education were ten (10), made up of middle school and junior high school leavers. Those who had secondary education were nineteen (19) and this number includes commercial college, secondary, technical and senior high, teacher training college, agricultural training institutions, and polytechnic. Those with university degrees were three which was made up of, first degree and post-graduate. The study revealed that both Yilo Krobo and Kintampo North farmers with basic level of education were five (5) respectively. At the secondary levels, Yilo Krobo farmers were six compared with thirteen (13) farmers in Kintampo North. One farmer in Yilo Krobo had university degree while the number in Kintampo North was two.

An analysis of the educational levels of the farmers in the study areas shows that the mango industry is not dominated by the highly educated (university degree) who were three in number. However, in the study areas, it was nineteen (19) farmers with secondary education who dominated respondents and the second dominant group was farmers with basic school level education who were ten (10). Educational level plays a crucial role in farm management and farming skill acquisition (La-Anyane 1988). This is because evidence shows that farmers with higher education have the ability to manage their farms or employ farm managers to take charge of their farms. With this Internet era, education

can bridge the extension service gap where extension service provision is in short supply and therefore farmers can access information on good crop husbandry practices.

The field data on the occupation of the farmers show that interviewees had varied experiences and came from different economic background. From the total of thirty-two (32) farmers, there were eleven (11) farmers who were engaged in food crops farming such as tubers (yam, cassava) cereals (maize, rice and millet), legumes and vegetables. These categories of mango farmers have transited from their usual food crops production to mango production.

There were eight (8) farmers who were traders. Their trading activities were classified into petty trading with six (6) respondents; an intercontinental trader, and one respondent who deals in fuel energy. Out of the six petty traders, one respondent was a tailor; another respondent was engaged in the distillation of local gin (akpeteshie) from oil palm trees and sugar cane. The rest (four) were trading in foodstuffs and other consumables. There were four teachers/educationists among the farmers and another eight (8) respondents were public servants. The composition of the public servants in the sample are; four Ministry of Food and Agriculture Extension Officers, one respondent each from Game and Wildlife, Ministry of Health, a Research Assistant, a retired military officer, and Public Works Department Building Inspector. There was one agribusiness officer.

In a cross tabulation of the main occupation of the farmers in the study area shows that at Yilo Krobo, there were five farmers each who were traditionally farmers and traders respectively. Also there was one educationist and one public servant. At Kintampo North, there were six (6) respondents who were traditionally farmers, three (3) respondents each for trading and educationist, seven (7) public servants, and one agribusiness officer. Peoples' education and work place is likely to expose them to varied experience that can

help them in their farming enterprise. Besides, that can help them marshal financial resources to enter into mango farming.

The marital status of the farmers were such that out of the thirty-two (32) farmers, thirty (30) were in conjugal relationships with twenty-six (26) of them in a monogamous relation while four are in a polygynous union. There was one farmer who at the time of the field trip was not married and was twenty (26) years old. There was another farmer who was a widower at the time of the field trip. The average family size of the farmers was 4.7 children per family (nuclear). The average number of children per farmer in the study areas indicates that Yilo Krobo study area recorded 4.1 while Kintampo North study area data indicated 5.2 children per farmer. On the whole, there was an average of nine (9) persons per household of a farmer. However, the average household of farmers at Yilo Krobo was 9.8 and that at Kintampo North was 8.6 persons per a farmer's household.

The conclusion drawn from the averages of family sizes and household sizes indicated that the family sizes were low but the household sizes were high. The study has deduced that the consumption units or the household units in the study areas are not nucleated but rather extended towards genealogical ties or extended family.

Land Tenure, Access to Agricultural Credit and Labour Organization in Yilo Krobo

Farm organization, according to La-Anyane (1988:41), develops, evolves and has a strong social and political basis. The social and political factors such as land, capital, and labour are the prime factors that determine the success of any farming enterprise. The section first looked at the general background of the land tenure system, agricultural capital and credit mobilization, and labour organization.

Twelve (12) mango farmers were interviewed at Yilo Krobo and the field data on the ethnic composition of farmers in the area shows that there was Akan, Ewe, and Konkomba

ethnic groups respectively. In addition, there were two (2) Ga-Adangmes and seven (7) Krobos. The figure on ethnic composition indicates that there were more Krobo indigenes in the sample than the other identified ethnic groupings in the area.

Land

In the study areas of Yilo Krobo, access to land is through communal and tenancy tenure system. The former is through inheritance or gift. The latter is by outright purchase and leasehold. These tenure systems exist side by side in different combinations.

In the Yilo Krobo community, four (4) mango farmers cultivated lands inherited from their forebears by having usufruct right of use. The usufruct right in Yilo Krobo is mainly by the patrilineal descent system. There are no stool lands at Yilo Krobo, rather, land is owned by the individual families. On this basis, members of a family have usufruct right over the land as an ancestry property. Under the usufruct system in Yilo Krobo, four of the farmers indicated that they acquired their farmland as part of government resettlement package and that land becomes their lineage property. Two of the three resettled land occupants (respondents #01 and #31) had this to say in conversation with the interviewer. The interviewee #01 at Yilo Krobo was made aware that land is very important in the establishment of farms and he was asked how he got his land. He replied by saying that his farmland belongs to him. He further went on to state that:

You know this is a resettlement area. Some years back when they constructed the Akosombo Dam, some of us were displaced by the Volta Lake so we were resettled at various places and this is one place of the resettlement area. What happened is that people were given houses by the government. The state put up houses as you can see for yourself, have you seen how the houses are? And in addition the state allocated to the people farming lands attached to it because their houses were immersed including their farming lands. So it is something like replacement of lost or submerged farmland caused by the construction of Akosombo Dam.

The respondent also intimated that the resettlement started in 1964 but the allocation of lands ended in about 1971. He was categorical that he did not pay anything for the land. However, there was some sort of agreement, a written document in the form of card or land permit. So that serves as a legal document to possess the land.

Interviewee # 31 is the chief of new Somanya in the Yilo Krobo study area and he recounted how he acquired usufruct use of his farmland, he said:

We (he and his subjects) are resettled occupants of a land that was provided by the government. (He continued his statement by saying that): My forest area is at Dedesu at the upper part of the Volta lake, so when the Volta lake destroyed our place of residence, we were resettled here by the government. We have documents covering the land called a pass book, however, we were told indentures would be provided later but we never got them.

Under the tenancy land tenure system, three mango farmers are cultivating leasehold in Yilo Krobo. Land lease or sale is done by the head of family with the consent of the other members. On leasehold at Yilo Krobo, there are willing leasers who see land leasing as a business. The lease prices of an acre of farm land differ from community to community and in different years. However, the price depends on multiple factors; the cost of land depends on who made the first approach. If the landlord is the initiator, then the leasee is likely to have a good bargain. On the contrary, if it is the leasee who initiates the negotiation at a time that the landlord is not in any difficulty or compulsion and willing to lease the land then such a deal is bound to be an expensive bargain. There are some instances where members of a lineage also lease land from the lineage head. In such circumstances, the terms offered to such a family member farmer is more liberal and cheaper than for non-lineage member. According to a farmer from the Yilo Krobo study area, he leased four acres (1.6 ha) of land from a family head at Somanya at a cost of five hundred Ghana cedis (Ghc 500.00) for twenty years.

Still under the tenancy land tenure system, five (5) farmers were cultivating outright land purchase in Yilo Krobo. Though land in many communities are headed by a head of family, whoever wants to buy it will mandatorily go to the chief for the necessary approval after the traditional rituals (payment of money , drinks, and prayers) are performed followed by the transfer of the land to the farmer or the buyer.

The study identified an emerging trend in land distribution and population size. It was noticed that productive land is becoming scarce and as a result, there is high propensity for the thriving of community land market. Access to information on available land for sale is premised on the social network that one has. The purchase prices of agricultural land vary according to the proximity of the land to the main settlements. It also depends on the party that makes the approach, the ethnic and the lineage status of the buyer, the location of the land, by the road side against the hinterland.

As a result of population increase leading to land fragmentation and scarcity, one indigenous female mango farmer in Yilo Krobo said she bought her land from one family head in the farming community in 2009. The 2.4 hectare land was sold to her at two thousand Ghana Cedis (Ghc 2000.00).

Access to Agricultural Credit

Access to agricultural credit is important for the growth of mango production in Ghana. The field interviews suggested that the initial agricultural credit for all the mango farmers in Yilo Krobo establishing their farms were pooled from traditional sources such as food crops farming, animal rearing, and petty trading.

According to one mango farmer in Yilo Krobo, establishing the farm was possible because as he said:

you know (referring to the interviewer) normally I do maize farming, and when I sowed the maize I included some 2 or 3 acres of the mango, gradually...that is I interplant the maize with mango seedlings ,that is how come I established my farm (interviewee #01). He continued by saying that:

I don't do one work. I was rearing animals. I got some goats, sheep and cattle, so I was selling the animals for the cultivation of the mangoes in the hope that the mango plantation will last (interviewee #01).

Three (3) of the mango farmers who were initially traders and artisans said profit accruing from their trading activities was what they have invested into the mango farming. This was what interviewee #04 has to say: "I started selling mango fruits in 1991. That is 13 years ago and in addition I retail foodstuff and general goods. It was the accumulated profits from this trade that I used to start the mango farm" (interviewee #04).

Still, a male trader stated that he got his money from the distillation and sale of local gin (akpeteshie). From the accounts narrated by these farmers in Yilo Krobo, I can emphatically say that they have transited from accessing agricultural credit from lineages or families and local money lenders to personal savings and from formal institutions.

Gradually as some farmers were about to expand their farm sizes, they fell on banks and instituted funds meant for the development of agribusinesses from development partners such as United States Agency for International Development (USAID) and organizations like Adventist Development and Relief Agency (ADRA).

One farmer who had accessed fund from the Yilo Krobo Rural Bank said:

Initially I started on my own then later it became necessary to seek for funds, so in the year 2003 that support came. Again in the year 2006 I had to fall on the Yilo Krobo Rural Bank and I was given Ghc 5, 000 and I've paid... The Bank took my building plans as collateral. Yes I have to go to the bank with collateral. I can say the Bank has a ceiling on interest rate to charge and wonderfully the bank didn't add anything like a compound interest (interviewee #02).

One of the development partners' instituted fund is MiDA. The MiDA is funded from the Millennium Challenge Account (MCA) of the Millennium Challenge Compact signed between the Government of Ghana and the United States of America (USA) in 2006 (<http://www.mida.gov.gh>, accessed on 03/01/2014). The compact was aimed at reducing poverty in Ghana through economic growth. Thus MiDA funds were to enable farmers raise their incomes through agribusiness expansion and also increase production and output of high value cash and food crops.

the Millennium Development Authority (MiDA), focuses primarily on reducing poverty in five (5) districts within the Northern part of the Country, nine (9) districts in the middle belt, specifically the Afram Basin and sixteen (16) districts in the Southern Horticultural Belt, (each area referred to as an Intervention Zone) (www.mida.gov.gh accessed on 03/01/2014).

ADRA, an organization in Ghana had implemented a two five-year development assistance program from 1997 to 2006 with the objectives of enhancing food security and improve income of farmer household (ADRA 2004). The strategy adopted for the increase in agricultural production was through increased access to agricultural credit and improvement in natural resource management practice. ADRA's major credit assistance went into the provision of agricultural inputs with a marginal cash remittances to farmers meant for ploughing or land preparation. The value of inputs supplied per farmer in Yilo Krobo was between three hundred and fifty thousand cedis to one million and one hundred thousand cedis (¢350, 000- ¢ 1,100,000) but the current value will be Gh¢ 35.00- Gh¢110.00 (ADRA 2004). In ADRA's literature, the funds expended on farmers were sourced from USAID (ADRA 2004). The benefit of the ADRA funds in Yilo Krobo follows an established pattern in the release of these credits in the form of farm inputs. This was what one of the ADRA beneficiaries had said:

At the beginning, ADRA provided me with maize to sow after they helped in the ploughing service. Later, they gave me mango seedling to inter-crop with the maize. Also, they gave me fertilizer and farming boots for protection. Actually, I applied the fertilizer on the maize'' (interviewee #32).

The findings on agricultural credit from institutional source indicated that one farmer had financial assistance from the Yilo Rural Bank, four (4) of the farmers had been assisted by ADRA food security programme, and another three (3) farmers had benefited from MiDA Millennium Challenge Account.

Labour Mobilization and Organization

Another factor of production examined among mango farmers in Yilo Krobo is labour organization. The field investigations revealed that in the Yilo Krobo area, one mango farmer engaged two members of his household. Eight farmers employed twenty-four casuals while eighteen permanent labourers were engaged by seven farmers in Yilo Krobo. The labourers do stumping, weeding, and during harvesting these same casuals are being called upon to help in the harvesting and conveyance of the fruits to a collection point.

In the Yilo Krobo area, only few of the labourers (about ten) were migrants. The rest (thirty-two) are Krobo indigenes. It became clear from the narratives of the farmers that work done by the casuals are compensated according to the degree of difficulty and work is negotiated on daily or contract basis. One thing that is certain is that the daily charge which is set between ten to fifteen Ghana cedis (Ghc10.00-Ghc15.00) is higher than Ghana's national daily minimum wage for 2013 which stood at five Ghana cedis twenty-four pesewa (GH¢5.24) www.ghanabusinessnews.com 2013/04/30.

Inputs Supply

Inputs supply is also very paramount in the organization of production. These are classified as seedlings and agrochemicals. In the Yilo Krobo area, the study found out that four farmers had their seedling supply from certified trained nursery operators while eight

farmers got the supply from their own nursery. The situation where farmers get their seedlings from their own nursery contravenes global food safety standards where it is expected that fruits are produced from identified source certified by a recognised body.

On agrochemicals supply, four farmers in Yilo Krobo use compound fertilizer while all the twelve farmers use liquid fertilizer, pesticides, and weedicides. The low use of compound fertilizer was as a result of the fact that it is used for maize that is intercropped with the mango. Currently, only four farmers interviewed have some of their farms at a stage that could allow intercropping.

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Land Tenure, Access to Agricultural Credit and Labour Organization in Kintampo North

The second study community is Kintampo North. Altogether, twenty farmers were interviewed and their ethnic composition indicated that, there were sixteen Brongs made up of four Mo-Brongs and twelve Nkoranza-Brongs. There were two farmers each who are Akans and Eve respectively. In the Kintampo North area too, the two dominant ethnic groups Nkoranza and Mo were more in the sample size than the other identified ethnic groups.

Land tenure and Acquisition

In this area, the total mango farms cultivated was 228.8 hectares by twenty farmers under different tenure systems. The land tenure systems practices were identified as stool land system, usufruct, leasehold, and outright purchase.

The field data shows that out of twenty (20) interviewees, eight farmers were cultivating lineage usufruct land. According to a farmer who had his land through lineage usufruct when asked how he had acquired the land, he said: “the land is for my forefathers and I am farming on it. It does not have any family conflicts possibly because everybody has accepted that it is my forefather’s land”. This farmer is a Mo-Brong who is from a patrilineal descent group and inherits from his father’s lineage.

Two other farmers who are Nkoranza-Brong from Nkoranza Traditional Area in Kintampo North had this to say: Interviewer: how did you acquire the land for farming?

Respondent: I am a native of the town as we talk and so we have a tradition over here that when you farm especially on grassland and then you don’t have a property on that land, the land does not belong to you. But when you have a property on the land then you can stay on it for a long time. So as a native of the land I can farm anywhere that I wish and that is what I did.

In his statement to corroborate the story stated by the earlier farmer, a second respondent from Kintampo North said that:

Over here we have ancestral lands. With us over here where ever there is grassland and you weed it, nobody asks you any question unless you are a stranger. So where I started farming nobody asked me anything that is how I was able to establish my farm.

One prominent mango farmer in Kintampo North said he had his land from the mother who inherited it from the uncle. This was what he said in an interview with the researcher:

Interviewer: Nana, knowing that you are a chief, I believe getting land for your farming activities would not be difficult, how did you get your land?

Respondent: I got my current land from my mum who also got it from my uncle. My uncle was one of those who started the towns in this area. In those days the lands were sold to them by the chiefs. You could find up to about 20 miles of land belonging to one chief, so if you settle and the place becomes a town, you could have your chiefs who would be ruling under the main chief who actually owns the land. I have other lands that were also handed down to me by my uncle. *Interviewer:* Is it secured? *Respondent:* Yes it is, even though there are no documents covering it, there is no dispute over them.

The second land tenure system identified in Kintampo North was leasehold which was acquired by nine farmers. All the leasee mango farmers in Kintampo North said they got their lands from the local chiefs through the lineage heads and first contact person. According to one native Brong, from the Mo Traditional Area he said:

In terms of land and being a native, I didn't have a problem, here; the natives only need to seek permission from the people around, to use the land for farming activities which would make you the owner. However, if you'd like to use it for development like plantation farming, then you would have to go and see the true owners and the custodians of the land for the necessary documentation to cover that land and that makes it secure.

The tenure under which the respondent is farming is a lease from the area chief and he had even registered it with the government, that is, the Lands Department.

The other three Nkoranza-Brongs stated they had contacted one of the sub-chiefs called Kyeremankomahene (chief of Kyeremankoma) who gave the lineage head the permission to lease the land for them. One migrant Ewe farmer narrated the difficulty he faced in securing his farm land within the Mo traditional area. He was asked about the challenge he encountered in the land acquisition and he had this to say:

I first acquired the land through a head of family first but later had to go to the chief to be given the site plan which I have also made a lease out of. *Interviewer:* what are some of the challenges that you face on the land? *interviewee:* hmmm... in terms of acquisition "dea" plenty of them, after stumping and planting then somebody comes and says the land is his. With all your papers ooo, with all your lease documents somebody will still come and say the land is his, that is my biggest challenge, but for now everything has been solved after visiting the chief and it's now my leasehold (interviewee #05).

This respondent also stated that his leasehold is 2 hectares which cost him one thousand five hundred Ghana cedis (Ghc 1500.00) in 2007 for 50 years.

On the other hand, all the leasees in Kintampo said they had their lands from the paramount chiefs i.e. from Momanhene (paramount chief of Mo) and Nkoranzamanhene (paramount chief of Nkoranza) but these acquisitions were mutually exclusive. In response to a question on how they acquired the land, one of the farmers who got his from the paramount chief of Mo Traditional Area said:

Before I entered into mango production, I already had land 161 acres that I had leased from the Mo Traditional Council. Interviewer: when did you lease the land? I met him (the chief) in 1981, and finally it was in 1984 that they (Traditional Council) gazetted it for me. First, I planted 45 acres of teak trees and 20 acres of cashew. Some of the land is still there. Hence I decided that I'd try the mango. The leased is 50 years but the lease is such that when the time is due and you have a building or a mango plantation on it they will be able to renew it for me. On the security of the land, the respondent said: The chief is dead but his successor is there. The linguist to whom the land belongs is dead but his successor is there (interviewee # 14).

The processes of acquiring land within the Mo Traditional Council is not too different from the Nkoranza Traditional Council as suggested by the accounts given by those farmers who had their leasehold from the Nkoranzamanhene. One such farmer is interviewee #11 who said in his case, he went through the right channel and he explained the right channel in the following conversation with the researcher:

I acquired the land in 2004 and I started that very year with 10 acres and now I'm beyond 10 acres. People say land acquisitions are a difficult issue but if you go through the right channels it is easy. The right channel is, there is a stool land and you have to go through the chiefs. There is somebody who is the care taker which is the first step: first step at my local level who reports to a chief. So you'd have to go through the person and he will send you to the chief who is superior to him the care taker. Sometimes even the care taker may not be a chief and he may not have a stool but the chief puts him there to take care of that land. The one I took is Nana Boahen, and he led me to the chief who is Nana Amankwah.: that is the second level. Then you will go to the tertiary level which is the paramountcy Nana Okatachee Agyamang Kudom, and who is the Nkoranza Omanhene.

According to this farmer, his land falls under the Nkoranza stool and in the acquisition of the land he did not encounter any problems. However, he lamented that:

I tell you the registration of the land as I told you from 2004, I even went to the land commission and they told me the file is here this, that, this. As at now the chiefs have signed everything, every indenture, everything but the government sector that is where the challenges of land acquisition are. Nine years now and I've invested more than I'll say 1 billion on that farm. They couldn't locate the file, so I haven't got from state the signed registered document. What I have is from the chiefs and for the chiefs, I think I started in June, of 2004 and by 2005 every document was signed by the chiefs and I had my indenture (interviewer # 11).

It is worth to state that this particular farmer has 94 hectares of mango under cultivation and he said the cost of the initial 10 acres (4 hectares) was ten million cedis (c 10,000,000) now one thousand Ghana cedis (Ghc 1000.00).

Outright land purchase was the third land tenure system identified. Three farmers were cultivating this type of land in Kintampo North. Some mango farmers, who also bought their lands in Kintampo North, said they have bought the land from a chief called Ampomahene under whose jurisdiction their land falls. According to respondent #16, he bought his four hectares of land in 1990 at the cost of one hundred and fifty Ghana Cedis (Ghc 150.00) while respondent #19 said he bought his 1.6 hectares of land in 2003 at the cost of four hundred Ghana Cedis (Ghc 400.00).

Access to agricultural capital

Farmers in Kintampo North as usual mobilize their initial agricultural credit from informal sources which include family pool, personal savings, sale of one's livestock, and loans from money lenders. Based on the previous occupations of mango farmers in Kintampo North, the study found out that the informal agricultural credit sources for the farmers are as follows. There was one farmer who had dealt in petroleum trade and had raised his initial fund for his farming venture from that source.

Next is an agribusiness-man who is also a horticulturist. He got his money from severance package and consultancies he had done for agencies, companies, and institutions over the years. Others are retired teachers who said they invested in the mango farming with the pension monies. There was one military officer among the farmers interviewed who said he also used his severance package for his farming business. The remaining interviewees who were traders and public servants said they used proceeds from the businesses and salaries to enter into the mango farming.

According to one farmer, he was able to access a bank loan from the Kintampo Rural Bank in 1997. The loan was a package from the International Fund for Agricultural Development (IFAD). A beneficiary of the IFAD loan from Kintampo North stated that at first, he was into cereals and root crops farming but a pathetic situation led him to the bank to seek for financial assistance from IFAD loans that were disbursed at the bank, he said:

I lost 250 bags of maize to fire when I had travelled to check on a tomato project I was working on. This made me really hot so far as my financial stability was concerned. An organisation called IFAD who was working through the Kintampo Rural Bank and was giving farmers loans came to my rescue. I applied for the loan and Mr. Berfi who was a board member of the Bank at the time, came to assess my situation and advised the bank to approve a loan of one hundred thousand (c100,000) old Cedis (now Ghc10) at the time for me to start. Also, because of my situation my wife and siblings also took loans to support me (interviewee #18).

The study has also found out that eight mango farmers in Kintampo North have access to agricultural credit from government agency called Export Development Investment and Fund (EDIF) now known as the Export Development Investment and Agricultural Fund- (EDIAF) after 2008. The Export Development Investment and Fund (EDIF) was established by Act 582 in October 2000 to provide financial resources to develop and promote export trade in Ghana.

The fund was also meant for funding export development, investment, and agriculture promotion for corporate bodies and individuals. However, the fund operation started in July 2001 (EDIF 2009). The fund is financed from a 0.5 percent of cost insurance and freight (c.i.f) value of imports of non-petroleum products (EDIF 2009). The money from the EDIF was accessed by farmers through their local farmer organization upon the submission of a credible proposal. The basis for the EDIAF for some Kintampo North farmers was that they have subscribed to a nucleus farming scheme. The nucleus farming scheme is a scheme where several small-scale farmers were put under the supervision of one large-scale farmer for mentoring in good agricultural practice (GAP). The agriculture capital from EDIAF was in the form of cash, farm logistics, materials, and production inputs.

The study concludes that the mango farmers use the informal and formal sources of capital in their farming venture. They however, began with the informal sources before graduating to access the capital from the formal sources. The financial services support that farmers derived were from ADRA, MiDA, and other development partners in the study areas.

Labour Mobilization and Organization

Another variable discussed on mango farmers in Kintampo North is labour organization. The fieldwork revealed that a total of 79 labourers were employed by the mango farmers interviewed. One farmer used three members of his family as labour unit at one stage or the other of the production process. A total of 64 casual labourers were employed by all the twenty farmers in Kintampo North. In addition to that four farmers employed twelve permanent labourers. The family and casual labourers were engaged on seasonal basis, from the time of establishing and expanding their farms. They did stumping, weeding, and during harvesting, these same casuals were called upon to help in the harvesting and

conveyance of the fruits to a collection point. Within the Kintampo study area, the migrant out-numbered the indigenes. The field data indicated the migrant labourers were 48 while the indigenes were 28 in number. One thing that is certain is that the daily fee which is set between ten to fifteen Ghana cedis (Ghc10.00-Ghc15.00) is higher than Ghana's national daily minimum wage for 2013 which stood at five Ghana cedis twenty-four pesewa (GH¢5.24) www.ghanabusinessnews.com 2013/04/30.

Inputs Supply

Inputs are classified as seedlings and agrochemicals. Supply of inputs is also very paramount in the organization of production. In the Kintampo North area, the study find out that sixteen farmers have their seedling supply from certified trained nursery operators. Only four farmers got their supply from their own nurseries. On this basis, there is a high incidence of farmer getting his/her seedling supply from certified nurseries which is what global food safety standards expected. That is fruits should be produced from identified source certified by international Plant Protection Council (IPPC) as a recognised body.

On agrochemicals supply, twelve farmers in Kintampo North used compound fertilizer while all the twenty farmers used liquid fertilizer, pesticides, and weedicides. The high patronage of compound fertilizer use was as a result of the fact that it was used for maize that are intercropped with the mango. Currently, twelve farmers interviewed were still expanding their farms and these farmers are at stages that could allow intercropping.

6.2 Discussion and Analysis of Social Organization of Production in Yilo Krobo and Kintampo North

A comparative analysis of the data from the two study areas show that there is high incidence of lineage members leasing land for cultivation in Yilo Krobo. The reason for

this phenomenon is that because lands belong to individual families, they are fragmented due to increase in population, changes in inheritance and ownership. For this cause, it became necessary for lineage members to lease or purchase land for farming. The finding shows that two indigenous Krobo leased land while another three purchased theirs. This makes a total of five indigenous mango farmers in Yilo Krobo who cultivate land through tenancy. Transfer of ownership of land in Yilo Krobo is sealed after payment of money, drink and offer of prayers. None of the farmers stated that they proceeded to the Land Title Registry for title registration. Again, family heads rather than traditional chiefs play significant role in the political economy of land distribution. This was evidence in the findings as none of the farmers stated any prominent role played by chiefs in the transfer or signing of land documents.

In Kintampo North, the Nkoranza Traditional Area has no incidence of land purchase but few exist in the Mo Traditional Area (appendix B section 2). There was more leasehold practice in both Mo and Nkoranza traditional areas. This is because as a matrilineal society, Nkoranza people who form majority have stool lands which they prefer leasing to outright sale. There were more indigenes that use usufruct right in land than there are in leasehold tenancy. Traditional chiefs play a prominent role in the political economy of land in Kintampo North. Apart from those who cultivated usufruct inherited lands, those who are into tenancy agreement such as leasehold and outright purchase mentioned chiefs as the final authority in the release of farming lands to both indigenes and migrants. This is an indication that land acquisition is elaborate in Kintampo North. What pertains in Kintampo North is explained below.

The hierarchy of authority involved in the acquisition of land beyond usufruct in the Kintampo North is such that at the lower level in the community it is broad. That indicates the quantum of heads of family that can be contacted for farming land. The next authority

to be contacted is the divisional chiefs who are numbered and occupy the intermediary position before finally contacting the paramount chief to seal the contract. The terminal point of consultation is dependent on three factors: the ethnic background of the farmer, size of the land in question, and security of the land. The basis for that assertion is that one farmer who is an Ewe and a smallholder farmer leased his land from a local chief; however, he was challenged by a relative of the chief. Eventually he had to go to the divisional chief for another negotiation to secure the land and his investment. Another farmer who is a large-scale farmer in Kintampo and an Ewe went as far as to the paramount chief of the Nkoranza Traditional Area for the land to be leased to him. Land transfer in Kintampo is effected after the traditional councils signed land indenture and gazette them at their level. The findings show that the larger the land sizes the higher the disposing authority. Again, the higher the disposing authorities, the more secure the tenure system.

On the political economy of land, this study confirms the political influence of traditional authorities in the promotion of export crops (Abaka 2005; Frimpong-Ansah 1991). Politically, chiefs and head of families are those who took decisions on lease or sell off lands to cocoa, coffee and oil palm farmers. This is so because politically, it is chiefs who control community lands for ancestors/ancestress, present generation and generations yet to be born. Theoretically, the study concludes that mango farmers in the production communities are dependent on traditional authorities (chiefs and head of families) to lease or purchase land for the development of mango production in Ghana.

In the implementation of Nkrumah's agricultural policy of state farm scheme, large-scale farmers depended on the state for land acquisition and distribution (Fimpong-Ansah 1991; Killick 1978) but small-scale farmers were not catered for in the allocation and distribution of state acquired lands (Fimpong-Ansah 1991; Killick 1978). The political decision of Nkrumah was to encourage large-scale agricultural production. Theoretically, the large-

scale estate farmers depended on state allocation of lands. Furthermore, the state also depended on chiefs who are allied to the government for large parcels of land for estate and large-scale farm development. Furthermore in the development of large-scale production of oil palm, small-scale and large-scale farmers were incorporated and lands allocated in BOPP, TOPP and GOPDC oil palm plantation schemes (Daddieh 1994).

The current study concludes that because government adopted market liberalization policy as an economic decision, the state has extricated itself from land acquisition for the development of export crops. It was as a result of the market and trade liberalization policy of government that both the small-scale and large-scale mango farmers are dependent on traditional authorities to lease or purchase land for production. The effect is that there may be more proliferation of small-scale production since farmers may not have large amount of money to into large-scale production. The study noticed the agitation of chiefs and farmers against the state. Findings indicated that after traditional authorities signed land agreements and indenture for farmers, when the documents get to the Land Title Registry, title registrations are delayed and sometimes the files containing these documents get lost. This study revealed that the Land Title Registry relies on vital input from the Survey Department who organize a parcel/cadastral plan which is recorded at Land Title Registry to prevent compound registrations. Likewise, calls for search reports from the Lands Commission for spatial description in the Land certificate time and again delayed the entire registration procedure. Due to this bureaucratic bottlenecks, implementation of the Land Title Registration Law 1986 (PNDC.L.152/Land Title Regulation 1986 L.I 1241 is being circumvented. This circumstance frustrates farmers; make security of land and farmers' investments insecure.

The finding on the main sources of agricultural credit in Yilo Krobo is from donor partner agencies. These are ADRA funding from USAID and MiDA from USA Millennium

Challenge Account. The ADRA funds are meant for the purchase of inputs such as fertilizer, seeds, seedlings and protective farm gears like boots. However, the MiDA fund was meant for capacity building in farm management. Those who received these funds were of the view that, the funds help them expand their farms and are able to maintain them as well. This evidence from the farmers in Yilo Krobo is a typical example of dependent development where with the help from donor states, peripheral countries can develop economically (Evans 1976; Gereffi & Evans 1981; So 1990:133).

In Kintampo North, the findings show that the main agricultural credit that mango farmers accessed came from a government agency called EDIAF. This was possible because farmers there are under the nucleus farming scheme with one large-scale farmer as the farm manager. Politically, the state fund extended to these farmers in Kintampo North is in fulfilment of government policy of making financial service accessible to farmers in the horticultural industry.

On the political economy of agricultural credit for export crops production, the study concludes that Act 582 of 2000 which established Export Development Investment and Agricultural Fund (EDIAF) is very beneficial to both small-scale and large-scale mango farmers particularly those in Kintampo North. This is because fourteen (14) out of the twenty (20) mango farmers interviewed in Kintampo North testified that they have accessed the fund (see appendix B section 1). This shows that the fund is disbursed in fulfilment of the objectives of the state to provide funding for agricultural production and export crops development (EDIAF Act (Act 582). In a related development, through international diplomacy, donor partner like USA has provided fund from MiDA for the promotion of mango production in Yilo Krobo. Through USAID, an agency like ADRA has provided agricultural fund to mango production in Yilo Krobo as part of food security programme.

Politically, the state has created that enabling environment for donor partners to help Ghanaian mango farmers. This political relationship is a dependent economic policy. It makes it possible for the development of Ghana's mango industry. This study affirms Sangho et.al. (2010) findings on the development of Mali's mango industry after the International Development Agency (IDA) fund was extended to mango farmers in Mali that the industry developed and farmers' income increased. Theoretically, this study also confirms the dependency theory from the perspective dependent development that when states, institutions and agencies establish good economic relationship with international development agencies and private entrepreneurs, there is capital and skill flow for social and economic development (Evans 1977; Gereffi and Evans 1981).

In Yilo Krobo, the difference in the number of casual labourers and permanent labourers employed in the community was not so large. However, in Kintampo North, large number of casual labourers was engaged than permanent labourers. The finding also shows that more migrant labour was employed in Kintampo North than indigenous labour. This was not the case in Yilo Krobo where more indigenes were engaged than migrant labour.

On inputs such as fertilizer, mango farmers in the two study areas complained of shortage of government subsidized fertilizer. This phenomenon fall short of what government proposed to do for farmers. The fertilizer market is dominated by registered and licensed private fertilizer importers, for example WIENCO Company. The government therefore purchase fertilizer from these private companies and subsidized them for supply to farmers through the coupon scheme. The subsidized fertilizer coupons are issued to the farmers at the District and Municipal levels by the District and Municipal Agricultural Development Officer. The coupons are therefore presented to the private fertilizer dealer for possible release or issue to farmers. The farmers stated that there are erratic supplies of the subsidized fertilizer. They said that sometimes, the allocation does not come during some

cropping seasons⁶. Consequently, the farmers have to resort to open market purchase and this raises cost production. The study concludes that fertilizer distribution is controlled by the private sector and not the state. This is as result of government policy of trade and market liberalization policy. The inability of government to supply the subsidized fertilizer is likely to reduce the number of farmers who will be using fertilizer for food crops production.

6.3 Organizing Farming System on Small-Scale and Large-Scale Basis

Food and tree crops production organization can be grouped into farming systems or farming type such as small-scale and large-scale on the basis of land use type, farm size and managerial skills of the farmers (Anaman 1988:180-182). Farming system or farming type has been classified as small-scale agricultural farming, traditional peasantry, smallholder or small farms. Large-scale farming system is also classified as super farm, co-operative farm or commercial farms (Sarpong 2004; Asamoah 2001a:122; 2001b:34; Swaminathan 1992:28-34; Anaman 1988:8; La-Anyane 1988:19).

In this sub-heading, the study grouped the organization of production into two farming systems or farming types. These types are smallholder/small-scale farms and large-scale/commercial farms based on characteristics such as land use type, farm size, resource mobilization capacity, and farm management skills. An examination of these variables enables the political economic analysis of the organization of production between small-scale and large-scale mango farmers. Attention is paid to resources mobilization,

⁶ The minister for Food and Agriculture, Honourable Fifi Kwatey was queried in Parliament why government was unable to honour the supply of National Fertilizer subsidy programme in 2014. His respond was that government owes the fertilizer companies a total sum of Ghc 64 million being subsidized fertilizer distributed in 2013 cropping/farming season. It was until December 2014 that government paid Ghc 46 million out of the outstanding debt (GNA 18-12-2014).

technology and social relations of production. The section starts with a look at the socio-demographic characteristics of both small-scale and large-scale farmers interviewed.

Social demographic characteristics

The mango farmers interviewed were thirty-two of which sixteen are small-scale and large-scale farmers respectively. The criterion for this categorization was that farmers whose farm sizes are below four (4) hectares are classified as small-scale farmers. Farmers whose farm sizes are above four (4) hectares are classified as large-scale farmers.

The field data indicated that thirteen and three small-scale farmers were males and females respectively. On the other hand, large-scale farmers interviewed were fifteen males and one female.

The gender composition of the farmers shows that in both categories of farming, more males were interviewed than females. There were more males among the large-scale farmers than among the small-scale farmers. However, there were more females into small-scale farming than those into large-scale farming. This situation arose due to the fact that the females who were small-scale farmers were engaged in petty trading with low funding sources. They were also hesitant in investing into the mango farming even though they got contact with the diffusion of mango production agents. Compared to that, one large-scale female farmer was earlier engaged in transcontinental trade and civil construction works. She was capable of investing in the mango farm. Besides that she was willing to accept new ideas on the diffusion of mango production as at when she got into contact with the diffusion agents.

On the age structure of the small-scale farmers, their modal age was between 50-59 years represented by six farmers. Five of the small-scale farmers were aged between 40-49 years and those farmers within age group of 60-69 were three. The data on the small-scale

farmers indicated that one farmer was between the age group of 20-29 years while another was between the age group of 70-79 years. The finding shows that four of the small-scale farmers were above 60 years while one farmer was a youth in agriculture engaged in mango farming. Among the large-scale farmers, the modal age was 60-69 years with the frequency of interviewee as five. One farmer was aged between 30-39 years while there were four farmers each in the age groups of 40-49 years and 50-59 years respectively. Again, there were two farmers who were above 70 years. The age compositions of the large-scale farmers show that there were seven of these farmers who are above 60 years. Beside that there was no youth among the large-scale farmers.

Comparing the small-scale and large-scale farmers, the findings show that eleven small-scale farmers were middle aged (40-59 years) compared to eight large-scale farmers within the same age group. This shows that there are more small-scale farmers who are middle age than those who are large-scale farmers. This result is indicative that the large-scale farmers are now emerging with the ability to invest the needed resources into the mango farming. However, the large number of small-scale farmers in that age group than large-scale farmers confirms the dominance of small-scale farmers in the production of export crops (Sarpong 2004). There were also four small-scale who were above 60 years compared to seven interviewees who were large-scale farmers. Therefore, there were more aged farmers who were into large-scale production than small-scale farmers. This result shows that more of the large-scale farmers are retirees and long-term farmers who have ploughed back their resources into the mango farming to expand the farm sizes. It was further found out that there were no large-scale farmer who was a youth but this was evident among the small-scale farmers. This situation shows that the youth are still not able to marshal resources to enter into large-scale farming. The study concludes that the mango farmers are ageing. This is because among the sixteen small-scale farmers, ten

farmers were between 50-79 years. The case of the large-scale is not different since out of the sixteen farmers, eleven of them were between 50- 79 years.

There is no marked difference between the marital status of the small-scale and large-scale mango farmers. Among the small-scale farmers, one was single and the rest fifteen were married. Indeed the farmer who was single was the one who had 25 years. On the other hand, fifteen of the large-scale farmers were married except one who was a widower.

Another characteristic that was considered between the two types of farming system is their educational levels. This is because it is the considered opinion of the study that it plays a role in farmers' ability to accept innovation in crop production, adoption and use of new technology in production. The field result shows that among the sixteen small-scale farmers, those who had basic education were six. This is followed by nine farmers who had secondary education. One of the small-scale farmers had university education (first degree). Among the large-scale farmers, four were basic school leavers, ten of them hold secondary school level certificates, and two were university products with post-graduate certificate.

The result indicated that at the basic level education, small-scale farmers who were six are more than the large-scale farmers who are four. This is because it is usual for people of low education to engage in small-scale farming. But the four farmers with basic level education who were engaged on large-scale farming is a fact that they have transited from food crop farming to mango farming with much longer farming experience, with secured funding sources, and acceptance of diffusion of innovation into mango farming. At the secondary and university levels of education, though large-scale farmers were more at each level, there is no marked difference between small-scale and large-scale farmers. From the analysis on education and farming, more educated people are into both small-scale and

large-scale farming in the study. It was ascertained that while ten small-scale farmers are educated above the basic level. Contrarily, twelve large-scale farmers have education above the basic level. The study concludes that in mango production, there were more educated farmers above basic level in the production communities. Again with the dwindling funding for extension service provision, most of these farmers could source for information on good agricultural practice on mango production.

The next socio-demographic characteristic that was looked at is the occupation of both small-scale and large-scale farmers. The interview result shows that small-scale farmers were engaged in farming, trading, with others as public servants with frequency of five respectively. There was one farmer who is an educationist. The result on large-scale farmers indicated that six of them were into farming. Three of the large-scale farmers were each engaged in trading, as government employees such as public servants and educationists respectively. There was one agribusiness consultant among the large-scale farmers.

An analysis of occupations between the two groups of farmers shows that there were more traditional farmers in large-scale farming than in small-scale farming. This phenomenon was attributable to the renewed interest in these farmers to diversify into mango production on large scale based on their perspective on mango productivity and income. The result also shows that there was more traders and public servant in small-scale farming than in large-scale farming. This trend was as a result of the fact that majority of the small-scale farmers were farming on usufruct land contrarily to the large-scale farmers who are migrants and are cultivating on leaseholds. There was one agribusiness consultant among the large-scale farmers but none among the small-scale farmers. The study concludes on the occupation of the small-scale and large-scale farmers that six of the farmers from each group were government employees either as public servant or civil servant. This shows

that their education influenced their occupation as well as their occupations gave them exposure to the mango farming venture which was diffused by diffusion agents from the ministry of food and agriculture and ADRA, TIPCEE.

Small-scale Mango Farming in Yilo Krobo and Kintampo North

According to Sarpong (2004), the term 'smallholder farming' meant farmers with restricted production resource endowments comparative to large-scale farmers in the agriculture sector (Sarpong 2004). He indicated that data from the World Census of Agriculture from some African countries shows a trend which portrays that from 1980 to 1990, smallholder agriculture production of less than one hectare had enlarged from 50 percent to about 78 percent (Sarpong 2004). His finding indicates that larger numbers of farmers are cultivating smaller farm sizes.

In Africa, smallholder farming is characterized by an average farm size of the range 0.5 hectares to 4 hectares (Asamoah 2001; Swaminathan 1992; Anaman 1988; La-Anyane 1988). These studies did not indicate whether the average farm size is for food or export tree crops. The farmer and his household manage the farm as the production unit with occasional use of hired labour. The smallholder farmer has difficulty in accessing institutional credit, he/she depends mostly on tools instead of equipment and he/she is not specialized in the production of a single crop (Asamoah 2001; Swaminathan 1992; Anaman 1988; La-Anyane 1988). Baah-Nuakoh' (1997:106) stated that Ghana's agricultural census in 1970 indicated that the average farm size was 3.6 acres (1.44 hectares) and 55 percent of land cultivated were less than 4 acres (1.6 ha) in size. Only two percent of land cultivated was 50 acres (20 ha) or more. The focus on small-scale farmers' centres on: farm sizes and type of land holding under cultivation, access to agricultural credit, organization of labour, and input supply. In addition, the section looks at farm

management, use of machines, soil enhancing technology adoption, and diseases control. The rationale is to identify their capacity to marshal production resources, discuss government support for sustenance of small-scale farmers in mango production, and to ascertain how mango production is reducing poverty and improving food security.

Farm size

The first indicator that was considered among the smallholder mango farmers was their farm size. The field data on the smallholder farming from the two study areas shows that the total hectares that was cultivated under this system by sixteen farmers was 50.8 hectares and their average farm size was 3.2 hectares.

The data revealed that five small-scale farmers interviewed in Yilo Krobo, have cultivated 15.6 hectares out of the total size of 50.8 hectares. The average farm size in the same study area was 3.1 hectares. Small-scale farmers in Kintampo North who cultivated the rest of the 35.2 hectares of the 50.8 hectare were eleven and their average farm size stood at 3.2 hectares.

The findings show that there is an increase in average farm size of small-scale mango farmers. The average farm size in this study stands at 3.175 hectares. Some of the factors partially responsible for this increase are availability of improved technology, conditions under which the crop thrives, and availability of market. The savannah areas that the crop is grown are not heavily wooded. Therefore this made the use of tractors in clearing plantation site possible. Again, the diffusion of innovation on mango production was based on improving food security whereby as food crops are grown initially, the mango tree crop is then intercropped in the food crops. As a consequence, the more the smallholder expands his food crop farms through shifting cultivation; he/she invariably expands the farm size. The third point is that there are improved disease and pest control technology

such that farmers are now able to control diseases and pests which hitherto was a limiting factor on farm expansion. The fourth factor is that some of the small-scale mango tree crop farmers are able to access government's agricultural credit under the nucleus farming scheme (block farming scheme).

Land Tenure

The land tenure system and processes of land acquisition was the second variable that was focused on. The study reveals three major land tenure system or land use type which the small-scale mango farmers were cultivating. These tenures or land use types are usufruct rights of use, lease holdings, and outright purchase. The field data shows that of the sixteen small-scale mango farmers, there were six farmers each who were cultivating usufruct land and leasehold. The rest of the four small-scale farmers were using lands which they have purchased outright. The leasehold tenure system spanned a duration of 50 years to 99 years which is subject to renewal and renegotiation.

According to one small-scale farmer who acquired his land through usufruct in Kintampo North said: "the land is for my forefathers and I am farming on it. It does not have any family conflicts possibly because everybody has accepted that it is my forefather's land". This farmer is a Mo-Brong who is from a patrilineal descent group and inherits from his father's lineage. Another small-scale farmer in Kintampo North who is Nkoranza-Brong from Nkoranza Traditional Area and who also inherits matrilineally, have this to say:

Interviewer: how did you acquire the land for farming?

Respondent: I am a native of the town as we talk. We have a tradition over here where when you farm especially on grassland and then you don't have a property on that land, the land does not belong to you. But when you have a property on the land then you can stay on it for a long time. So as a native of the land I can farm anywhere that I wish and that is what I did.

The situation of usufruct land tenure system among small-scale farmers in Yilo Krobo was not different. As a patrilineal society, usufruct right was through the father line and most of farmers who are using this type of land acquired them as a result of tracing their genealogy through their father line only.

The findings on the leasehold which was acquired by six small-scale farmers revealed one difference. Small-scale farmers in Yilo Krobo acquired their leasehold from family heads. According to one such farmer in Yilo Krobo study area, he leased four acres (1.6 ha) of land from a family head at Somanya at a cost of five hundred Ghana cedis (Ghc 500.00) for twenty years. In Kintampo North, the leasehold farmers said they got their lands from the local chiefs through the lineage heads. According to one native Brong, from Mo Traditional Area he said:

as a native, I didn't have a problem, I only seek permission from the people around, to use the land for farming activities which made me the owner. However, as I was about to use the land for the development of mango plantation farming, I then went to see the true owner and the custodians of the land who is the traditional chief for the necessary documentation to cover that land and that makes it secure.

The tenure under which the respondent is farming is a lease from the area chief and he had even registered it with government at the Lands Department and has title registration. Other Nkoranza-Brongs small-scale farmers in Kintampo stated that they had contacted one of the sub-chiefs called Kyeremankomahene (chief of Kyeremankoma) who gave the lineage head the permission to lease the land for them.

Outright land purchase among small-scale farmers in Yilo Krobo and Kintampo North shows that farmers in Yilo Krobo usually bought land from family heads. This is because land is owned by the individual families and it is the head of the family who supervises it on behalf of the family members and therefore has the authority to dispose any part of the land. A small-scale farmer in Yilo Krobo stated that she purchased 2.4 hectare land in 2009

at the cost of two thousand Ghana Cedis (Ghc 2000.00). On the other hand, some small-scale farmers in Kintampo North said they bought their lands from the Ampomanhene under whose jurisdiction their land falls. According to one farmer, he bought his four hectares of land in 1990 at the cost of one hundred and fifty Ghana Cedis (Ghc 150.00). Another farmer also said he bought his 1.6 hectares of land in 2003 at the cost of four hundred Ghana Cedis (Ghc 400.00).

Access to Agricultural Capital/Credit

The next variable that the study examined in the organization of small-scale farming was access to agricultural credit. The field data shows that the major traditional sources of funding agricultural credit for the small-scale farming are from sources such as money from family pool, personal savings, sale of one's livestock and farm produce, and from money lenders. All the sixteen small-scale farmers stated that they had their initial funds from money accruing from several livelihood activities. According to seven of the smallholders, they got their money from salaries and severance packages from their present or previous employment. In the words of an airborne military officer, now a farmer who is a small-scale farmer, he said:

I didn't take anything (money) from the financial institutions. I can say the money came from my military funds; I used it to purchase chemicals like fertilizer and ploughed the land for my inter-cropping. So I can safely say it came from my end of season grants that I got (interviewee #21).

There were three of the farmers who were traditional farmers who said that profit from the sale of the surplus produce was re-invested into the mango farm. Three of the mango farmers who were initially traders and artisans said profit accruing from their trading activities was what they had invested into the mango farming.

Access to good financial resource is economically healthy for agricultural development and it was for this reason that the researcher interrogated the small-scale farmers to ascertain

how they were able to be assisted by financial institutions. The field data shows that ten of the small-scale farmers have had institutional credit support from a rural bank, state institution, and donor partners (see appendix table 4). Three small-scale farmers said they had assistance from ADRA. ADRA is a development partner organization with funds from donor agencies such as USAID. Six farmers stated that they have had credit support from the Export Development Investment and Agricultural Fund (EDIAF). The Export Development Investment and Agricultural Fund is a Ghana government financial agency. One small-scale farmer had the credit assistance from a rural bank. Furthermore, the disbursement of funds from EDIAF and ADRA were mutually exclusive in the study areas and the field data supported this argument. The beneficiaries of the ADRA funds are in Yilo Krobo District while that of EDIAF are Kintampo North Municipality. The pattern established in the release of these credits was that they were in the form of farm inputs. This was what one of the ADRA beneficiaries had said that when he was establishing his farm, ADRA provided him with maize seed to sow at the beginning. They helped in the ploughing service. Later, ADRA gave him mango seedlings to do inter-cropping. In addition he was given fertilizer and farming boots for protection.

On the other hand, one of the EDIAF beneficiaries in Kintampo North made a statement when he was asked whether he had help in land preparation and he said:

Let me say yes to some extent. Because, EDIAF came in with some help... the maximum amount that I have received although I don't have my records here is between 300 and 400 Ghana cedis for land preparation. Not that only but some agro-chemical (fertilizer, weedicide, fungicide, watering cans), and some money for fire belt preparation (interviewee #05).

Even though the credit incentive is relatively negligible in nature, the opportunity that was availed the smallholder farmers had spurred them on. Based on this empirical evidence, the state would be scored above par and seem to have achieved her vision which stated among others that smallholders are more vulnerable and therefore

interventions need to be extended to them in order to minimize their risks and help them to increase productivity.

Labour Mobilization and Organization

Another attribute that was analyzed as a characteristic of smallholder farmers is labour organization. The field investigation revealed that the sixteen smallholder farmers employed a total of forty-one casual labourers. It must be emphasized that only two farmers used family labour at one stage or the other of the production process. The smallholders were of the view that these labourers were engaged on seasonal basis, from the time of establishing and expanding their farms. They do stumping, weeding, and during harvesting these same casuals are called upon to help in the harvesting and conveyance of the fruits to a collection point. It became clear from the narratives of the farmers that work done is compensated according to the degree of difficulty and the work is negotiated on daily or contract basis. One thing that is certain is that the daily charge which is set between ten to fifteen Ghana cedis (Ghc10.00-Ghc15.00) is higher than Ghana's national daily minimum wage for 2013 which stood at five Ghana cedis twenty-four pesewa (GH¢5.24) www.ghanabusinessnews.com 2013/04/30.

The next phenomenon that was considered is farm inputs such as seedlings and agrochemical supply and use. The field data indicated that out of the sixteen small-scale farmers only four of them use compound fertilizer. This was due to the fact that only these numbers are still doing inter-cropping. This is because the compound fertilizer is mostly applied on maize crops that are inter-cropped with the mango. However, all the sixteen farmers use liquid fertilizer for flower induction. They also use pesticide and weedicides on their farms. On seedlings, twelve of the farmer got their stock from certified nursery operators while four said they got theirs from their own nurseries. The reason for this development is that these farmers are themselves nursery operators.

Large-Scale Mango Farming in Yilo Krobo and Kintampo North

The second category of organization of production considered in this study is large-scale farming based on characteristics such as farm size, resource capacity, and farm management skills (Asamoah 2001; Swaminathan 1992; Anaman 1988; La-Anyane 1988). Large-scale commercial farming is described as a type of farming where farm size is large and the farm is managed and supervised by a specialised person who has some technical skills and training. Under this system, the production unit is differentiated from the consumption unit as few permanent and casual labourers are hired. Commercial farmers are said to be able to access institutional credits and they usually depend largely on leasehold with longer period of tenure. In addition, they use equipment and machines very often in land preparation and they specialized in the production of few crops (Asamoah 2001; Swaminathan 1992; Anaman 1988; La-Anyane 1988).

Farm Sizes

For this study, the operational definition for a large-scale commercial farm is a farm that is above 10 acres or 4 hectares with at least one permanent labourer serving as a farm manager. The number of sampled respondents who are commercial farmers were sixteen. Out of this number, seven are from Yilo Krobo and nine are from Kintampo North study areas respectively. The total hectare of land under cultivation by the large-scale farmers was 353.2 hectares. In Yilo Krobo and Kintampo North, lands under cultivation were 159.6 hectares and 193.6 hectares respectively. In the study areas, all the large-scale commercial farmers have their farm sizes ranging from as low as 5.6 hectares to as high as 94 hectares. Five farmers have their farm sizes from the range of five hectares to below ten hectares. Four farmers have their farm sizes ranging from ten hectares to below nineteen hectares. Next, there are three farmers who have the sizes ranging from twenty hectares to below thirty hectares. Again, three farmers also have their farm sizes from the range thirty

hectares to below thirty-nine hectares. However, only one farmer has 94 hectares of cultivated mango farm.

Land Acquisition under Large-Scale Farming

The study has identified three major land tenure systems under the commercial farming. These are lineage land with usufruct right, leasehold and outright purchased lands. The field data shows that six (6) of the commercial farmers were using lineage lands that they have usufruct right over. In the words of a farmer in Yilo Krobo who have usufruct right in the land he was cultivating, he said that:

In Kroboland here, land is owned by the entire family and some individuals. So as a native my family is privileged to have large span of land transferred to us the fourth or so generation by our forebears. This is the land I am cultivating now.

One large-scale farmer in Kintampo North said he had his land from the mother who took it from the uncle. This was what he said in an interview with the researcher:

Interviewer: Nana, knowing that you are a chief, I believe getting land for your farming activities would not be difficult, how did you get your land?
Respondent: I got my current land from my mum who also got it from my uncle. My uncle was one of those who started the towns in this area. In those days the lands were sold to them by the chiefs. You could find up to about 20 miles of land belonging to one chief, so if you settle and the place becomes a town, you could have your chiefs who would be ruling under the main chief who actually owns the land. I have other lands that were also handed down to me by my uncle. *Interviewer:* Is it secured? *Respondent:* Yes it is, even though there are no documents covering it, there is no dispute over them.

The next land tenure system under the commercial farming is leasehold. In this category also six of the commercial farmers were under this system. Furthermore, two are in Yilo Krobo while four are in Kintampo. The two large-scale farmers in Yilo Krobo who leased their lands said they leased them from willing family heads in the Somanya mango production community. On the other hand, the four leasees in Kintampo North said they had their lands from some paramount chiefs in the area such as Momanhene (Mo Paramount chief and Nkoranzamanhene (Nkoranza paramount chief). But these

acquisitions were mutually exclusive. In response to a question on how land is acquired in these two traditional areas, one of the farmers who got his land from the paramount chief of Mo traditional area said:

Before I entered into mango production, I already had land 161 acres that I had leased from the Mo Traditional Council. Interviewer: when did you lease the land? I met him (the chief) in 1981, and finally it was in 1984 that they (Traditional Council) gazetted it for me. First, I planted 45 acres of teak trees and 20 acres of cashew. Some of the land was still there. Hence I decided that I'd try the mango. The leased is 50 years but the lease is such that when the time is due and you have a building or a mango plantation on it they will be able to renew it for me. On the security of the land, the respondent said: The chief is dead but his successor is there. The linguist to whom the land belongs is dead but his successor is there (interviewee # 14).

The processes of acquiring land within the Mo Traditional Council is not too different from the Nkoranza Traditional Council as suggested by the accounts given by those farmers who had their leasehold from the Nkoranzamanhene. One such farmer is interviewee #11 who said in his case, he went through the right channel and he explained the right channel in the following conversation with the researcher:

I acquired the land in 2004 and I started that very year with 10 acres and now I'm beyond 10 acres. People say land acquisitions are a difficult issue but if you go through the right channels it is easy. The right channel is, there is a stool land and you have to go through the chiefs. There is somebody who is the care taker which is the first step: first step at my local level who reports to a chief. So you'd have to go through the person and he will send you to the chief who is superior to him the care taker. Sometimes even the care taker may not be a chief and he may not have a stool but the chief puts him there to take care of that land. The one I took is Nana Boahen, and he led me to the chief who is Nana Amankwah.: that is the second level. Then you will go to the tertiary level which is the paramountcy Nana Okatachee Agyamang Kudom, and who is the Nkoranza Omanhene.

According to this farmer, his land falls under the Nkoranza stool and in the acquisition of the land he did not encounter any problems. However, he lamented that:

I tell you the registration of the land as I told you from 2004, I even go to the land commission and they told me the file is here this, this, this. As at now the chiefs have signed everything, every indenture, everything but the government sector that is where the challenges of land acquisition are. Nine years now and I've invested more than I'll say 1 billion on that farm. They couldn't locate the file, so I haven't got from state the signed registered document. What I have is

from the chiefs and for the chiefs, I think I started in June, of 2004 and by 2005 everything have been signed by the chiefs and I had my indenture (interviewer # 11).

It is worth to state that this particular farmer has 94 hectares of mango under cultivation and he said the cost of the initial 10 acres (4 hectares) was ten million cedis (c 10,000,000) now one thousand Ghana cedis (Ghc 1000.00).

The third and the final land holding identified was outright purchase. This category of land holding is cultivated by four large-scale farmers in the two study communities. All the four farmers said they bought the lands from chiefs even though the lands belong to the individual families in the farming communities who saw the need to dispose them off.

Large-Scale Farmers and Access to Agricultural Capital

One of the criteria for classifying farmers as large-scale farmers is their ability to access financial institutions in terms of extension of agricultural capital or credit facility. The study, having explored the sources of funds, capital or credit available to the commercial farmers came to the firm conclusion that the farmers have two main sources. These sources are from traditional source such as personal saving and institutional support from formal financial agencies such as banks, state agricultural funds and donor partners.

The sixteen commercial farmers stated their initial sources of agricultural capital from the traditional domain as follows. About five said it came from savings from farming activities, five said it came from salaries and severance package, and four said it was mobilized from the savings they made in trading. Another two traders also recounted their sources of funding. One woman said that she was a business woman engaged in the importation of goods from Dubai and other Asian countries and the profit was what she saved and used. In the same vein, a trader, who was a fuel dealer, said that out of the sale of petroleum products he accumulated his saving and went into mango farming. Those farmers who said

they had their initial fund from their salaries or severance packages were seven of the commercial farmers. These categories of mango farmers consisted of educationists with one who is currently a proprietor of a private school in Kintampo town, public servants, and a horticulturist.

The commercial farmers who were able to access agricultural credit from financial institutions and agencies were twelve (*see appendix D*). The field data indicated that one large-scale farmer had credit from ADRA. In another development, eight farmers accessed EDIAF loans while three farmers benefited from MiDA loans. It is important to state that the three beneficiary farmers of the MiDA fund were from the Yilo Krobo study area which is classified as the Ghanaian Southern horticultural belt. Giving his account of the MiDA fund which he received, he said:

To enable me establish new farms and expand the hectares, the MiDA concept also came. I was given twenty thousand Ghana cedis (Ghc20, 000.00) and that helped me a lot and I'm still doing stumping. Now I have 92 acres of land and I am developing it gradually.

When the interviewee was asked how the interest rate was calculated on the credit facility given him by MiDA, he stated that MiDA introduced compound interest. He lamented and said:

Though the Ghc20, 000 that I took from MiDA, they took 10% as collateral and the rest was given to me, which was Ghc18, 000. Now I've paid the 18, 000 but my 10% is with them (interviewee #02).

The narrative of interviewee #02 was corroborated by another beneficiary farmer (interviewee #26) of the MiDA fund. His confirmation was that in 2008/2009, MiDA gave some few selected farmers maintenance credits through the Manya Krobo Rural Bank which was relatively more than what the Manya Krobo Rural Bank could give. MiDA did not give the funds to the beneficiary farmers directly but rather chose the banks as the

medium for the disbursement of the fund. The next institution that gave financial credit to some farmers was ADRA. One large-scale farmer was a beneficiary from the fund.

The EDIAF which eight large-scale farmers benefitted from is operated under the nucleus or block farming out-grower scheme where there is a large-scale commercial farmer and under him are cohort of out-grower farmers put under his supervision and mentorship (interviewee #11). EDIAF is operational mainly in the Kintampo North study area. The fund beneficiaries are said to be about seventy-five farmers and are put under one large-scale commercial farmer who was also sampled as the interviewee number eleven. According to the large-scale farmer who also manages the EDIAF, under the nucleus farming scheme, EDIAF supported 75 mango farmers in the Kintampo North Municipality. In 2010, EDIAF gave money amounting to Two Hundred and Forty thousand Ghana Cedis (Ghc240, 000). The fund was allocated to cover 200 acres (80ha) of land to be cultivated. The allotment was done in such a way that the commercial farmer had 50 acres (20ha) to cultivate and the rest of 150 acres (60ha) went to the out-grower farmers This was shared and each of the seventy-five farmers had 2 acres (0.8 ha).

The amount given to the out-growers ranges from one thousand two hundred to two thousand four hundred Ghana Cedis (Ghc 1,200-Ghc 2,400) depending on one's farm size. However, the leading commercial farmer among the EDIAF beneficiary was given sixty thousand Ghana Cedis. The fund was to be used for inputs, land preparation (bulldoze works to fell trees), and cash for preparation of fire belt in the dry seasons. The lead commercial farmer expresses his view on the EDIAF. He said:

Actually on my own I went as far as 45 acres before EDIAF came and EDIAF had added over 200 acre supports from their funds to me. Only EDIAF, have been helping me with grants and some interest free loans, which have been helping me with my farming career. But apart from EDIAF, no other commercial bank gave me loans (Interviewee #11).

On the amount disbursed to him and his out-grower farmers he said:

In sum I'll say EDIAF has given me almost sixty thousand Ghana Cedis (Ghc 60,000) from 2010 when I was given I think 240, 000 Ghana cedis. That one was out grower development so I was given 200 acres, I took 50 acres and I had to give 150 acres to out growers of about 75 farmers. That was because it is out-grower scheme but in 2011 they changed the model into commercial farming when 100 acres was to be added on and the 100 acres' budget allocated to me was 201, 000 Ghana cedis. In 2012, last year I was given another 100 acres because I was able to do the 50 and the 100 from 2010 and 2012 and I think the budget was 325, 000 Ghana cedis (Interviewee #11).

It is important to emphasize that the allocation of funds was geographically biased. The ADRA and MiDA funds were disbursed in Yilo Krobo study area while EDIAF's credits were concentrated in the Kintampo North study area. Again, the beneficiaries of the EDIAF in Kintampo were more than ADRA and MiDA fund beneficiaries in Yilo Krobo.

Large-Scale Farmers and Labour Mobilization

The data shows that a total of seventy-seven labourers were employed by the sixteen commercial farmers. The seventy-seven labourers were made up of forty-seven casuals and thirty permanent employees. Farmers in Yilo Krobo employed twenty-six labourers and that consisted of eight casuals who were engaged by three farmers while eighteen permanent labourers were employed by the seven commercial farmers sampled in Yilo Krobo. In Kintampo North, a total of fifty-one labourers were employed. This was made up of thirty-nine casuals and twelve permanent employees. All the commercial farmers in Kintampo had engaged casual labourers. However, only four farmers out of the lot had employed permanent labourers. In contrasting the mode of labour engagement in the two study areas, the research findings show that majority of commercial farmers in Yilo Krobo employed more permanent labourers than the casual ones. It was noticed that the average labourer per farmer was three. On the contrary, farmers in Kintampo North have employed more casual labourers than the permanent ones. Also it was noticed that the average casual labourer per farmer was four while only four commercial farmers engaged permanent

labourers. The composition of the labour according to place of origin indicated that in the Yilo Krobo area, the indigenes labour population outstripped that of the migrants. However, in Kintampo area, migrant labour population outnumbered that of the indigenes. On input use and supply, only twelve large-scale farmers who are still expanding their farm sizes are using compound fertilizer for their inter-cropped maize. The entire sixteen farmer use liquid fertilizer to induce flower development. They use pesticides and weedicides for pest, diseases and weed control. The finding shows that eight farmers buy their seedlings from certified operators while another eight said they were trained to raise their seedlings for production.

6.4 Analysis of Small-Scale and Large-Scale Farming in Mango Production

The findings show that there is no difference in the number of farmers who are engaged in the three land tenure system practiced in the study areas. This is so because, the same number of farmers who are into usufruct, leasehold and outright purchase as small-scale farmers, the same number of large-scale farmers is accessing the same type of landholdings. This finding differs from other findings by Anaman (1988), La-Anyane (1988) and Asamoah (2001) which is one of the characteristics used in the classification of farm types. Thus one of the features used is that large-scale farmers depend largely on leasehold and outright purchased lands for cultivation.

This study therefore concludes that in the study areas, both small-scale and large-scale mango farmers depend more on leasehold and outright land purchase for production. Again, the small-scale mango farmers are faced with huge financial challenges in leasing or purchasing of land. This, the study suggests is because their former occupations gave them some moderate funding sources.

On the issue of land security, findings from this study indicated that large-scale farmers are more interested in securing land title registration documents from the state more than the small-scale farmers. From the interviews, most of the small-scale farmers were content with land documents signed by the heads of family and chiefs after performing the necessary traditional ritual associated with access to land. However, the study noted that the large-scale farmers even go beyond chiefs and traditional councils after their indentures are signed to land title registry for Land Title Registration. Some of these large-scale farmers succeed but few also faced delays. One such farmer said his land document signed by chiefs of Nkoranza Traditional Council got lost at the Lands Commission.

On land preparation, the study has found out that majority of the large scale farmers used modern machines in land preparation and on farm operation. During land preparation, they use equipment such as bulldozer to prepare the farming land before tractors are used in tilling it. Funds for these activities according to the farmers were part of intervention from EDIAF and MiDA.

More large-scale farmers dug bore hole and hand wells for the provision of water on their farms. According to these farmers the bore holes were not provided either from EDIAF or MiDA. Comparatively, very few small-scale farmers are able to dig well. The rest of them depend on rivers and streams and during the dry periods when they need water they spend a lot of money on water.

The formal source which is a Ghanaian state fund was Export Development and Investment Agricultural Fund (EDIAF). This credit facility benefitted fourteen (14) of the mango farmers. Other formal funds were from donor sources such as Millennium Development Account (MiDA), International Fund for Agricultural Development (IFAD), and Adventist Development and Relief Agency (ADRA). The total credit facility from the

donor or development partners benefited seven (7) of the mango farmers. It was evident that three (3) of the farmers have had credit assistance from Ghanaian banks.

The findings on capital or credit incentives show that twenty-four (24) of the mango farmers have access to formal institutional credit facility. Out of the 24, however, fourteen (14) of the large-scale farmers had access to the credit incentive as compared to ten (10) of the smallholder farmers who benefited from same. Further analysis shows that the EDIAF and MiDA funds benefited large-scale farmers in terms of the quantum of money they received more than the small-scale farmers. Indeed no small-scale farmer had benefited from MiDA fund. The study concludes that government policy on EDIAF has made it possible for farmers to have access to agricultural credit for mango production even though the policy has benefited large-scale farmers' more than small-scale farmers. Again, the food and agricultural sector development plan (FASDEP II) whose aim is to make sure that large-scale farmers have access to agricultural credit to enable them mentor small-scale farmers have started bearing fruit through the nucleus farming scheme in Kintampo North. This policy of creating state funds for investment such as EDIAF is beneficial to the development of the mango industry.

The intervention of donor partners such as USAID which funded the MiDA is promoting mango production in Yilo Krobo area. Theoretically, this phenomenon is a typical sign of dependent development where donor partners from western countries provided the needed fund for agricultural development.

The study revealed that none of the large-scale farmers have engaged family labour in production. However, three (3) small-scale farmers have engaged five (5) consumption units as production unit as well. The study also noticed that though both small-scale and large-scale farmers engaged casual/seasonal labourers, the large scale-farmers engaged

more than the small-scale farmers. The main difference between large-scale and small-scale farmers in labour engagement is that none of the small-scale farmers have employed permanent labourers on their farms. The study concludes that there is a clear distinction between production and consumption units in the production of mango. There is also a drastic reduction in the use of consumption unit as production unit partly due to the high premium the farmers put on education of their children and dependants who are of school going age. Both large-scale and small-scale farmers are dependent on casual or seasonal labourers for production. However, more of the large-scale farmers engage more permanent labourers than the casual labourers.

6.5 Production Challenges Facing Mango Producers

The small-scale mango farmers have countless challenges in their production activities. These challenges are pest and disease control, input supply, theft, infrastructure, fire outbreak, and bureaucracy. The first challenge that one farmer said was that some mango farmers do not seek proper advice from mango farmers association before entering into the mango production. As a result these categories of farmers buy substandard way-side seedlings that do not meet production specification. Besides that, some farmers also use unregistered agrochemicals and when this is detected, consumers lump all mango farmers together and say they are using unapproved production methods.

The second challenge that FBOs are confronted with is pest and disease control. A MoFA official⁷ at the district level in one of the study communities intimated that their major problem with mango farmers has to do with the non-association members of the mango FBOs. He said:

⁷ The MoFA official is by name W.W.Benneh and stationed at Somanya in Yilo Krobo district in the Eastern region.

Apart from the training that MoFA staffs give to the mango farmers, we visit their farms to check on their activities. We ensure their field chemicals are recommended and safe. But some of our challenges are with non-members of the association. They are starved of the technical support they require from us to ensure success in their ventures.

The official went on to explain the starvation to mean:

From time to time, we get ourselves trained so upon return we also come and train the FBOs. We have information on the effective control of pests and diseases but it's some of the farmers who fail to access the help because most of them are not found on the farms. They are distant or absentee farmers. So members of the Association get the information because the NGOs also help in the pest and disease prevention. The problem is with those who are not members of the Association.

From the narrative above, it is clear that because these non-association members only produce for our local market where food safety standards are not enforced, they do not perceive it as an incentive for them to join the association so they can learn the best practices. Judging from the fact that the non-association members are exempted from exporting their produce and their products are confined to the local market because they do not adhere to the practices association members do, their farms serve as reservoir for fruit flies and other pests which in turn affects surrounding farms. As a result, the MoFA staffs in the study districts and their colleagues at PPRSD are also sensitizing the association members on how they can curb the repercussion of the practices of non-association members on their farms. The MoFA staff advises them to get extra fruit fly traps and deploy them in the surrounding farms that are owned by non-association members for the fruit flies that may come from such farms.

The third challenge that the farmers encounter is the cost of fertilizer and the inefficient supply schedules. The study noticed that there is price differential for fertilizer. Fertilizer price on the open market is higher than the government subsidized one. The government through MoFA operates the coupon system where farmers are given coupons which are

certified by the District MoFA Extension Unit for onward supply to farmers at designated registered private agrochemical shops. This is done because the state has liberalised the purchase and sale of agrochemicals. The study revealed that the authorization for the certification of subsidized coupons often delays and when it eventually comes, the quantity supplied to be subsidized is not enough, thereby forcing farmers to buy the fertilizer from the open market which is expensive. At Yilo Krobo, one bag of the subsidized NPK fertilizer sells at twenty-nine Ghana cedis (GhC 29.00) while that of the open market is sold at fifty Ghana cedis (GhC 50.00) at the time of data collection. In Kintampo, the subsidized one sells at thirty-five Ghana cedis (GhC 35.00) and the open market one is sold at sixty Ghana cedis (GhC 60.00). One farmer at Kintampo lamented that:

My plantation is 18 acres and if I have to buy 1 bag per acre which has been recommended for us, then, instead of spending about six hundred and thirty-eight Ghana cedis (GhC 638.00). I will end up spending one thousand and eighty Ghana cedis (GhC 1080.00).

Farmers who are operating under the EDIF nucleus farming concept expressed their frustrations at an underhand dealing within the supply of agrochemical inputs by a member. According to the farmers the leader of the nucleus farmers was given the opportunity to procure agro-input and distribute them to their members and recoup the money during the time of sale of the produce. However, the farmers claimed that the leader goes to purchase the cheapest and ineffective agrochemicals and some other inputs for the farmers under him but stocks his agrochemical store with effective ones which he sells to other non-nucleus farmers at higher prices. In fact, this discontentment is expressed towards the leader of the nucleus farmers and not the government.

The fourth challenge is theft, animal invasion of farms, and cost of carting water to the farm to mix chemicals for spraying and cleaning of the mango fruits. About half of the farmers interviewed in Yilo Krobo stated that one of their major problems is fruit theft on the farms. A fifty-nine year old mother of four puts the theft issue succinctly this way:

Fiafitɔwo ɔia fu nami ɲutɔ vevietɔ le ezawo me. Efe sivayi me la, fiafitɔwo tsɔ KIA vu ɔeka vafi Nye mango hegbe, gake melewo dometɔ ame eve. Policewo kplɔwo yi vɔnudrɔfe eye wodewo mɔme. Esi miele afisia hele dzesiaɔom fifia haa, hanyevi dze afisia ɔe nye mango ɲutsi hele fifim ɔaa.

This is translated into English language as follows:

Thieves do worry us a lot especially in the nights. Last year thieves went to my farm and harvested one KIA truck full of mangoes. But I managed to arrest two. The police sent them to court and they were jailed. My brother as we are seated here during this interview, I can tell you that my fellow human beings are sweating stealing my mangoes on the farm.

About two-thirds of the respondents stated that cattle/cows usually invade their farms mostly during the dry seasons. These cows feed on the mango leaves depriving the plants of chlorophyll for the necessary photosynthesis, a situation which can lead to a reduction in yield levels. Besides that, some of the cows also use their horn to destroy the fruit sets of the mango trees. Again, about a quarter of the respondents complained that during the dry season, they incur a lot of cost in fetching water from a clean source to their farms to undertake some crop husbandry activities and cleaning of harvested fruits on the farms. This is so because during the dry seasons, the water table becomes very low and this situation leads to the dugout wells drying up. In addition to that, those who have access to river water suffer the same fate especially where the water body is small and the temperature is high and the drought prolongs. When the rivers dry up, they equally face water problems.

The fifth challenge that farmers face, especially, those in Kintampo area is annual bushfires. The farmers complained that fire outbreaks are very problematic in the area. There are some who are not interested in the farming industry and so in pursuance of their selfish interests ignore the possible repercussions of their actions on other people's farms. They set fire carelessly in search for prey such as rats, grass-cutters, rabbits and sometimes end up burning farms without adequate fire protection. According to the farmers, the government has placed a ban on bush burning during the dry season. Nonetheless, some recalcitrant people keep doing it. One of the respondents said about two years ago his five acres (2 hectares) mango farms got burnt through wild bushfire. Again, another farmer also stated that, five years ago, he lost 250 bags of maize he harvested as intercropped food stuff from his mango farm to bush fire when he travelled outside the farm house. So in an attempt to protect their farms from this deliberate bush burning during the dry seasons, the FBOs said they embarked on public sensitization against bush burning though it is still going on. The only option left as a last resort is for the affected farmers is to protect their farms by the creating fire belts against the bush fires. The farmer must clear the farm of weeds around September-October so that by the dry season, prospective fires would not have devastating effects on the mango plants and the farms.

CHAPTER SEVEN

7.0 INTEGRATION OF MANGO FARMERS INTO THE EXPORT CROPS

MARKET

Introduction

One element of integration is the extent to which members of group interact with one another and how they participate in their group's social and economic activities (Abraham and Morgan 2004:105). Prior to the integration of mango farmers into the global export crop market, cocoa, oil palm, sheanut and other export crops producers did not have direct interface with retail and wholesale firms who buy and sell these produce to consumers in the industrialized countries. The state became the intermediary between these buying firms. However, as a result of trade and market liberalization, it is private firms who buy these export crops directly from the farmers through their representative agents in the producing countries. The onus is on these firms to ensure that export crop commodities imported into the western countries meet safety standards. According to Hoogvelt (1997:165) because there is an aspect of financial integration, some of the integrating institutions do not respect the right of national governments in the producing countries to control their activities.

One important component of integration is the degree to which various stakeholders, agents and institution work together with one another (Abraham and Morgan 2004:105). It is therefore imperative to examine how participatory the integration evolves at the production, farmer education and disease and pest control stages. It is for this reason that this current study focuses attention on how mango farmers are integrated into the global market through inculcation of good agricultural practices (GAP).

This chapter examines the role stakeholders are playing to nurture, grow, and to sustain the mango industry and eventually integrate into the global commodity chain. The chapter is

divided into five sections starting with the non-tariff barriers that farmers are required to surmount in order to access the global commodity market. It also explains the global commodity governance structure. Section two focuses on the organization of farmers into associations or cooperatives. The third section dwells on meeting mango production and food safety standards in Ghana's mango industry. Section four talks about the collaboration in technical assistance and skills development support for mango farmers. The final section discusses the challenges small-scale mango farmers face.

7.1 Governance Structure in the Integration of Farmers into the Global Market

The integration of mango farmers into the global market looks at the Governance Structure in the Global Commodity Chain. Governance structure is a non-tariff barrier set up by representatives of consumers in the industrial countries to regulate the entry of consumable goods into their countries. The non-tariff barriers are standards in the governance structure which are to be surmounted by the producers in order to access the global market. The restrictive function of the governance structure is exercised by retailers and brand-named supermarkets in the global market (Gereffi 1994). The governance structure in global commodity chain as stated in Gereffi (1994) is:

Authority and power relationship that determined how financial, material and human resources are allocated and flow within the chain. Governance structure under a buyer-driven commodity chain is situation where retailers and brand-named wholesale industries in the developed countries played a pivotal role in setting up decentralized production networks in a variety of exporting countries located in third world countries and this trade-led industrialization is akin to labour-intensive industries.

Gereffi (1994) described the role of retailers and brand-named supermarkets in the global commodity chain as those who do not own any production facility in countries of production. They do not process what they sell; they only market the end products from tropical countries globally.

Scholars in global commodity chain argue that the major function which retailers and brand-named supermarkets play effectively as a non-tariff barriers to participation in the export trade is to regulate and certify the type of environment in which the export crops are grown, i.e. to ascertain whether the land was ever used as a dump site or mining site full of mercury and other harmful chemicals. They also monitor production practices such as agrochemicals use, quality and intervals in enhancing plant fertility, weed, pest, and insect control. They are equally interested in evaluating post-harvest handling and storage of crops to avoid food contamination (Dolan et al 1996). The export relation between retailers and brand-named wholesale firms and horticultural export crops producers is described as oligopoly and monopoly relationship (La-Anyane 1985:118-9). He argues that the investment decisions of the oligopolistic firms in the developing countries is to focus on the production of crops exported to advanced countries' fix prices and control the export trade leaving out the production of domestic staples.

The debates above on governance structure make it very important to examine government policy on the integration of mango farmers into the global market. The study has found out that there are three sub-structure levels or stages in the global commodity chain governance structure. These include legislation, executive and judicial level structures. The legislative structural level is where standards are set for suppliers in terms of timely delivery of quality products and adherence to environmental and labour protection.

The next stage of the governance structure is the executive level where suppliers (farmers) are assisted to meet the standards. There is also a judicial governance structure which focuses on monitoring of suppliers in meeting standards. The integration processes involve agents of exporters in the third world producing countries. They made sure that commodities exported met the requisite standards of the retailers and wholesalers in the core countries.

Influence of External Governance Structure

In a systematic interaction with key informants from development partner agencies such as GIZ, ADRA and USAID and from state agencies and institutions the study came out with the following findings. The study revealed that in the Ghanaian mango industry, the agents who are responsible for setting standards as part of their legislative functions are retailers in Europe and the International Plant Protection Council (IPPC). The executive functions are performed by some representatives of exporting agents of the retailers in Europe. These representative agents in Ghana are food processing companies such as Blue Skies, HPW, and ITFC. Of course, they are also complemented by development partner organizations such as GIZ, ADRA, and USAID-TIPCEE Program. These agents help in the education of mango farmers and assist them at the production level and ensure that farmers produce mangoes to meet specification.

The agency that audits farms and exercises the compliance function (judicial function) to ensure that mango fruits from Ghana meet standards in the global market is AfriCert based in Kenya.

AfriCert is a privately owned certification body, accredited against ISO 65/ EN 45011 for product and system certification in agricultural production and processes. In 2012, AfriCert was successfully awarded the SAN/RA accreditation by the International Organic Accreditation Services IOAS dba SESAC (USA). In the same year, AfriCert and DNV Business Assurance entered into a strategic partnership aimed at broadening the range of services that AfriCert will be providing in Certification and Labels, Assessments, Verification, inspections and training in Food, Manufacturing and Processing, Health Care and Hospitality, Climate and Carbon audits amongst others.

Theoretically the influence of the external governance structure is significant in the development of Ghana's mango industry and this is an example of dependent development aided by state policy.

Internal Governance Structure

As part of the globalization ideology, the Ghana government has also created a national governance structure to regulate the activities of export crops producers in the country. The agencies and institutions that perform these functions are the Ghana Standard Authority, Environmental Protection Authority and Plant Protection Regulation Services Division. Ghana Standards Authority (GSA) performs dual roles (legislative and judicial functions) which are setting Ghanaian food safety standards in compliance to IPPC standards and also certifies fruits after conducting maximum residual level (MRL) test.

The Environmental Protection Authority (EPA) is responsible for regulating import, registration and use of agro-chemicals in the production of horticultural export crops. The Plant Protection and Regulatory Services Division (PPRSD) also perform dual roles (executive and judicial functions).

The Plant Protection and Regulatory Services Division is responsible for the biological control of plant pest and diseases so that mangoes that are exported are free from pest and disease infestation. The Plant Protection and Regulatory Services Division is also charged with certification or quarantine of infested mango fruits which are meant for export. The internal governance structure forms part of government policy on the economy of mango sector. The policy resonate with the mango farmers well and have accounted for easy access of mango from Ghana into the global export market.

Kaplinsky (2000) suggested that compliance to the governance structure constrains a lot of smallholder farmers in developing countries. It is as a result of this observation that he stated that the production of fresh fruit crops for export favours the large scale commercial farmers who could afford the logistics needed to meet quality standards set by the retailers.

However, the only window open to smallholder farmers is to form a union (FBO) and organise themselves into co-operatives to pool resources in order to be compliant.

The next section talks about farmer organization because it became an integral component of integration where activities enshrined in the functions of the governance structure are performed.

7.2 Organizing Farmer-Based Organizations to Integrate Mango Farmers

The Ghanaian export crops production sector was largely dominated by small-scale farmers who over the years have supported the cocoa, oil palm, and shea nut economy (Frimpong-Ansah 1991; Mikell 1989; Hill 1956). The smallholder farmers' economic development support was acknowledged by Nkrumah's government when it was stated that "one of the catalysts for Ghana's economic development growth is her international trade in agricultural commodities such as rubber, cocoa, oil palm"⁸ a feat achieved through the effort of the Ghanaian small-scale farmers..

Due to the immense contribution of smallholder farmers in the Ghanaian economy, several attempts have been made to integrate small-scale farmers into the export market through farmer-based organization to enable them remain competitive. Farmer-based organization or association is not a new phenomenon. Ghanaian elites in the 1930s petitioned the United Kingdom (UK) Parliament on the need for cocoa farmers to form cocoa and agricultural co-operatives immediately after the 1931 depression and cocoa hold-up in Ghana (Mikell 1989:144). This appeal was necessary because the global political-economic decisions affected the farmers in tropical Ghana. Nkrumah's policy for agricultural development also put emphasis on stimulating private farmers to form Farmer Based Organizations or

⁸ Seven Year Plan for National Reconstruction and Development 1963/64—1969/70 Page 53.

Cooperative. This policy was imperative since the state realised that the costs involved in accessing agricultural machines and modern technology as well as extension services was beyond the individual farmer's resources.

This section of the study focused on the establishment of Farmer-Based Organizations (FBOs), the aims or core objectives, and their activities as a strategic vehicle to improve smallholder farmers' access to services. The section also looks at the integration of farmers in the two farmer-based organizations. The two FBOs from which the sample of farmers were selected and interviewed were Yilo Krobo Mango farmers Association and Kintampo Mango Farmers Association.

Yilo Krobo Mango farmers Association

The association was formed in 2003 through persuasion and the instrumentality of the District Director of Agriculture in Yilo Krobo Municipal Assembly and this was succinctly put by the immediate past president of the association as:

We were doing the mango production and business individually when Mr. Larbi the then District Director of Agriculture advised us to come together so that we could get assistance from NGO's and the Government. So he encouraged us and was instrumental in the formation of the association.

The association is registered with institutions such as Registrar General's Department, Department of Co-Operatives, with FAGE, Shipper's Council, and Export Promotion Council. Externally, they are registered with Food Logistical and other International organisations. The Association has an executive body that is headed by an elected President, supported by the Vice President, Secretary, Treasurer, and Organizer.

The Association's major aims were to assist members to cultivate quality fruits for both local and export markets. Also to help members to get used to good mango cultivation practices like control of pests and diseases. Also to help members market their produce.

Some integrative activities that the Association embarked on mostly began with TIPCEE an institution sponsored by USAID. The TIPCEE Program was extended to the community in 1995 and the association registered with it. The Agency helped them with the technology of how to cultivate mango on scientific bases and how to control pests and diseases. Others are record keeping, maintenance, pruning, harvesting, and even in the exportation of mango by sea.

The Yilo Krobo Mango FBO was the first organisation to start exporting mango by sea. This idea was from TIPCEE, when they came into Ghana from 1995 -2000. As a result of the training that members received, the association is now Global Gap Certified. Apart from that, some individual members of the Association are fair trade certified farmers. The membership of the Association is about 200. However, active members who are financial and Global GAP certified are 62 as of the time of the field visit. Apart from TIPCEE, another organization that helped build the capacity of the members is ADRA.

Activities that the Association embarked on with the help of the three bodies of MoFA, TIPCEE, and ADRA are to ensure the production of quality fruits. These are (1) making sure that the seedlings are spaced according to the planting distance and (2) fertilizer application to the food crops that are intercropped with the mango plant. The agencies that were mainly involved in these training activities were ADRA and officials of MoFA in the Yilo Krobo District.

The executives of the Yilo Krobo Mango Farmers Association again said that TIPCEE's training drive for ensuring quality of fruit centred on farm management and good agricultural practices. On pest and diseases control, the focus was especially on the correct dosage of agrochemicals to be applied to the crop during spraying. They were also taken through maintenance pruning to enable aeration and to avoid excessive tree canopy and

shade. The association members were trained on maintenance and farm hygiene which involved making sure that there is a place of convenience and faecal disposal on the farm and proper disposal of refuse, discarded agrochemical cans and rotten mangoes. The farmers were also trained in fundamental farm records keeping on daily routine works that are done on the farm.

TIPCEE equally devoted part of their training package to the marketing needs of the Association. It was noted that mango is highly perishable and the skin can be bruised easily if not managed properly. Considerable energy was devoted to training farmers in harvest and post-harvest handling of the mango fruits. The field investigation indicated that all the twelve farmers interviewed have accessed greater part of all the capacity building workshops organized by MoFA, TIPCEE, and ADRA.

On crop protection, Yilo Krobo Mango Farmers have been the prime beneficiaries of the activities of Plant Pest Research Services Department (PPRSD) of MoFA. The Association members have benefited from training organized by PPRSD on the control of fruit fly.

The Association also has a marketing committee which made it feasible for them to negotiate purchasing 'contracts' with private buyer such as Blue Skies, HPW, and many other local subsidiaries.

The Yilo Krobo Mango Farmers Association has two major physical properties. These are a Modern State of the Art Pack House built for them through funds sourced from MiDA. An office complex centre of excellence building was built by Blue Skies Fruit Processing Factory as part of their corporate social responsibility for the association members. At least five (5) of the farmers have stated that they have benefited from tours organized to attend food logistical fair in Germany and South Africa.

The views of the farmers on the association are summed up in the perception of the immediate past association president of Yilo Krobo Mango Growers. He said

You know the mango industry in Ghana is comparatively new and I'm sorry to say we don't have a lot of people investing in it like cocoa production. When we started it was a little bit of trial and error because many of the farmers did not know the technique of cultivating mango and even the MoFA staffs were not up to the task of finding solutions to our myriad of challenges. Fortunately, there was an institution under USAID called TIPCEE. They came in 1995 and we registered with them. TIPCEE helped us a lot in the technology of how to cultivate mango on scientific bases, control of pests and diseases, record keeping, maintenance, pruning, harvesting and even in the area of exportation by sea. We were the first organisation to start exporting mango by sea. This idea was from TIPCEE-a USA organisation that came into Ghana from 1995 - 2000. They helped us a lot and by that, we were able to train our farmers. Now we are Global Gap Certified. Apart from that, some of us are fair trade certified farmers.

He concluded by being emphatic that:

We could not have benefited from all these incentive packages from development partners and the state if we had existed as individual farmers without the FBOs.

Kintampo North Mango Farmers Association (KINFA)

KINFA was formed in 2005 under the auspices of TIPCEE when the agency came to Kintampo looking for FBOs to train. According to the secretary to KINFA, at the request of TIPCEE, the Association signed a memorandum of understanding with TIPCEE and per that commitment they started training the association members (interviewee #10). However, that was before the organization registered as a credible association in 2007 with the Municipal Assembly, Department of Co-operatives, and the Registrar General's Department. The current president of the association who is a founding member said:

It was GIZ which came and gathered us to organize. They trained and advised us on how important it was for us to come together as FBO. So anything that was needed was provided for by GIZ. You know ever since, it was at that gathering where we selected our chairman, treasurer and secretary. That was the beginning of the Association

The core objectives of KINFA are to help members acquire the necessary techniques and skill in mango production, and to look for collective marketing channels for fruits of members.

Integrative activities of the Association included regular training workshops for training of new members and retraining of old members. The training in good agricultural practices was carried out by TIPCEE and GIZ. Areas that were covered were pegging the farm, to enable the land take the standard tree stands through spacing, fertilization, chemical application and precautionary measures, tree hygiene through pruning and farm sanitation.

According to the FBO members, personnel were brought from South Africa and Germany to train them at the expense of the donor agencies like GIZ and TIPCEE. Again, through GIZ sponsorship, the African Cashew Initiative in collaboration with PPRSD, farmers were trained in the identification of fruit flies and how to deploy their baits in good time to reduce the fruit fly population.

KINFA's success stories are numerous. On the marketing front, members of the Association were unanimous in their accounts. That it was through GIZ's market oriented agricultural program that equipped the association to enter into sale 'agreement' with processor companies such as Blue Skies, HPW, and ITFC. Through the same agency's African Cashew Initiative (ACi) Program, three nursery operators were trained and certified as mango nursery operators in the Brong-Ahafo Region.

The Association was sponsored by the Municipal Assembly to attend Mango week in Accra organized in 2006 by ADRA as a means of exposing farmers to current trend in mango business. Members of the association numbering four were sponsored by Business

Sector Advocacy Challenge (BUSAC) fund to South Africa to interact with mango farmers in that country.

The Association has won the best FBOs award in the Region on two consecutive occasions and were presented with two motorized spraying machines. The Association also has one tractor with its accessories. This was how one association member put the general expression of the KINFA members:

Ever since we started the association we have benefited a lot not only in cash per se but technical know-how in mango industry. Without that we couldn't have come together to get a body like Blue Skies to support us. With one leg you can't enter Blue Skies, even if you are certified. Ever since we came together as an association, several things became easier for us as compared to one person as a management.

7.3 Discussion and analysis of farmer-based organizations' integration in Yilo Krobo and Kintampo North

Farmer-Based Organizations existed in Ghana in the form of labour exchange team. These organizations perform functions such as joint land preparation and joint harvesting (Asibey-Bonso 2012). Farmer-Based Organization as formal organization emerged as co-operative bodies in Colonial Gold Coast in the 1920s and transcended into the Post Colonial Ghana (Frimpong-Ansah 1991; Kay 1992; Amoah 1998; Asibey-Bonso 2012).

The colonial government encouraged the organization of the FBOs with the aim of promoting the production of export crops through scientific methods, maintain quality produce, and to follow a strict supply schedule. In no time the FBOs became antagonistic with the colonial government and the merchant class mainly as a result of a dip in the price of most export crops produced (Frimpong-Ansah 1991:85). The study finds out that the mango FBOs are non-confrontational unlike how FBOs in the past used to be during the fight for decolonization and immediate post-colonial periods as stated in Frinpong-Ansah (1991) and Killick (1978).

The success and effectiveness of the mango FBO is predicated on their motives, objectives and the nature of the group's activities that members undertake. The FBO never had confrontations with the government. This is based on the fact that they are able to access extension services. Because marketing of the crop is liberalized, the farmers do not see the state as collecting tax from them through differences in farm gate and global market as it used to be under the Cocoa Marketing Board scheme.

In the early part of post colonial Ghana, particularly during Nkrumah's regime, some of the FBOs were transformed into the political wing of the ruling government (Killick 1978; Frimpong-Ansah 1991; Baah-Nuakoh 1997:118). The study found out that there are no overt or covert activities that suggested that the FBOs are aligned to a particular political party or exhibit affection towards a group of people to mean they are partisan. The study attributes the attitude of the FBOs to the fact that there is a high influence of development partners who provide diverse services to them and they themselves are non-partisan.

In 1984 when the Rawlings' administration began implementing policies of the International Financial Institutions (IFI), there was trade and market liberalization of export crops. The Provisional National Defence Council (PNDC) government advocated a strong farmer representation in the determination of export crop prices through the formation of FBOs as co-operatives (Asibey-Bonso 2012). Subsequent governments in the Fourth Republic built on the same ideology. MoFA (2009; 2010) buttresses the formation of FBOs to access extension services from government and development partners' agencies.

The findings on FBOs in the two study areas indicated that the FBOs are not strong channels for advocacy. They however are able to lobby for infrastructural development and access to credit from government financial agencies and development partners to

farmers. A classical example is the ability of the Yilo Krobo Mango Growers Association to lobby MiDA to build a State of the Art Pack House for them at Akorle near Somanya. This facility is intended to serve mango farmers at Manya Krobo and Dangme West. Again, Kintampo Mango Farmers Association was also able to lobby EDIAF through the presentation of a credible business proposal and had funds for their farming project under the nucleus farmer scheme.

The FBOs served as a forum for collective action. Members of the FBOs meet regularly, share ideas and information. They also discuss relevant topical issues on farm management practices, marketing strategies from development partners like GIZ, ADRA, and USAID funded projects. These development partners are indeed providing complementary services to the FBOs which would have been otherwise provided by the state but for lack of funds.

To sum up, the rationale for the state advocating farmer organization was premised on the fact that the costs involved in accessing agricultural machines and modern technology as well as extension services was beyond the individual farmer's resources. It was for this reason that the study investigated how farmers were organized and integrated into the export market.

The Mango Farmers' Associations were formed in 2003 and 2005 in Yilo Krobo and Kintampo North local Assemblies respectively. The agents for the innovation of the formation of the farmer associations were from the state's local agencies and bilateral agencies. In the two study communities, the idea was muted by the District Agricultural Development Officers. Subsequently, their efforts were complemented by donor agencies like GIZ and USAID. Through the FBOs, the association and member farmers have benefited from GIZ's market oriented agricultural programme (MOAP) and USAID's trade

and Investment Programme for Competitive Export Economy (TIPCEE). In addition, there was ADRA's food security and sustainable agricultural programme sponsored by USAID.

An analysis of activities that are undertaken in the farmer-based organizations to integrate the mango farmers into the global market raise few issues on the political economy of farmer integration and theoretical issues on dependent development.

The findings indicated that the political economy of the mango farmer organizations are not affiliated to any political party as was the case during the Convention Peoples' Party regime. They are also not confrontational as was the situation in the eras of decolonialization and under Kwame Nkrumah rule. These situations were largely due to government's policy of trade and market liberalization and government's non-direct involvement in the production, purchase and marketing of the crop.

Again, the finding indicates that the integration agents who perform executive functions differ in the two study areas. In Yilo Krobo, the main integration institute is USAID with its agents Trade and Investment Programme for Competitive Export Economy (TIPCEE) and Advent Development Relief Agency (ADRA). On the other hand, in Kintampo North, the main integration institution is GIZ with Market Oriented Agricultural Programme (MOAP).

Further, the study revealed that though there are differences in the geographical areas that USAID and GIZ operate to complement government effort, their integrative activities are similar in nature. That is the promotion of good agricultural practices among the farmers. Through the integration process, farmers have adopted new technology and new practices (Monu 1975) which include scientific application of weed, pest/disease control agrochemicals appropriate spacing or distance between and within plant stand, proper

disposal of faecal and refuse and agrochemical containers, farm maintenance and record keeping.

Furthermore, the Mango Farmers Association in Yilo Krobo is better integrated into the world market than that of Kintampo North. This is shown in the physical infrastructure that development partners and multinational companies built in Yilo Krobo. MiDA built a State of the Art Modern Pack House for the farmers while Blue Skies Company, a multinational fruit processing company built an office complex centre of excellence for the same association.

Politically, activities and infrastructural development within the FBOs are dominated by development partners (USAID and GIZ) and multinational company (MNC) Blue Skies. Theoretically, the donor partners and MNCs are providing more logistics and infrastructure for the integration of the mango farmers. This situation is enhancing the development of mango production in the study communities. The indication is that there is dependent development in mango production in the two study areas. These findings are the study's contributions to knowledge.

The study revealed that mango farmers in both study areas have been sponsored through Business Sector Advocacy Challenge (BUSAC) fund to attend logistics tour in Germany and South Africa. The fund was created by the state to sponsor farmers to attend workshops and seminar in advanced countries to observe and interact with farmers in these advanced countries. Based on this indicator, the study states that government policy created the enabling environment for farmers to be integrated into the global commodity market. Theoretically, the Ghanaian mango farmers are dependent on farmers in advanced countries to learn new technology and this will necessarily lead to development.

7.4 Technical Assistance and Skills Development Support for Farmers

Interest in transferring modern scientific agricultural knowledge on how to improve productivity through field practice can be achieved through extension service provision. It is noted that the failure to transfer existing knowledge in agricultural science to the field of farmers is largely due to an ineffective extension service provision (Nkrumah 1964:76-8). Government's Food and Agricultural Sector Development Policy has identified farmer-based organization as the most cost-effective channel to ensure delivery of extension service to scattered smallholder farmers all over the country. The Extension Service Division of MoFA is responsible for the diffusion of government's agricultural policy on introduction of new variety of crop species, disease control, and agrochemical use. It is also to train farmers in nursery operation, plant protection against insects and fungal attack on the fields, and organize farm demonstrations.

Ministry of Food and Agriculture (MoFA 2009) has prescribed activities that the extension division is to undertake to promote production of cash crops in order to increase income of farmers. The activities to be performed include capacity building for nursery operators in tree crops production; their certification and assisting the operators to obtain resources to expand and improve the quality of seedlings. The extension service unit is also to link cash crop farmers to credit resources, facilitate contractual arrangement between cash crop producers and buyers (MoFA 2010:33). To reduce post-harvest losses, the extension service is charged to train mango producers in post-harvest handling of fruits.

MoFA as a state institution has acknowledged that developing food and agriculture requires an improved extension service and crop protection (MoFA 2009:27). However, MoFA has realised that the research-extension liaison unit and public sector extension is not well funded.

To ameliorate this situation, the state policy has promoted access to multiple service providers. It is in line with this policy that the role of certain NGOs in the promotion of productivity in the mango industry becomes paramount. The study has noticed that NGOs have different objectives for their extension service delivery. ADRA and TIPCEE Programmes, for example, have focused on providing production services such as crop husbandry practices. Others also have as their objectives to build marketing capacity for farmers. An example is GIZ and TIPCEE programmes. Nonetheless, these development partners are equally involved in providing financial aid to the farmers.

In Kintampo North, three (3) farmers who doubled as nursery operators were among 76 nursery operators in the Brong-Ahafo who were trained and certified under a GIZ's African Cashew Initiative (ACi). This activity was possible through Export Marketing and Quality Awareness Program (EMQAP) scheme. In Yilo Krobo, Ministry of Food and Agriculture teamed up with ADRA to train nursery operators who provided seedlings for farmers to prosecute ADRA's re-forestation programme that involved intercropping food crops with mango plantation.

The MoFA and the development partners have trained farmers in farm hygiene, plant protection, product handling, fertilizer application, book keeping and group work. The production technique includes the introduction of farmers into zero tilling program where there is slashing, spraying, and planting instead of the traditional slashing, burning, ploughing, and planting as stated in a statement by interviewee #21.

The farmers were also trained in how to spray folia fertilizer and in intervals within which they are to do reapplication of agrochemical. All of the interviewee stated that experts on mango production were invited from South Africa to run series of workshops for them the mango farmers in the two study areas. An official from MoFA in Yilo Krobo stated that

the institution has contracted agronomists in Ghana to conduct research into the activities of fruit fly and how it could be controlled. He said some of the findings are communicated to the farmers hence the deployment of the fruit fly bait in most farms in the study areas.

Mango farmers in both Yilo Krobo and Kintampo North have stated that through the help of TIPCEE, they now have a standard measure that is used for selling their produce. This was what one farmer stated:

At the local level, women have found a way of cheating us. They have 2 types of boxes we called tomatoes box. When they come to the farm they use the bigger one in measuring which when they come home, they will come and off-load into a smaller and lesser one, so from that box when they buy let's say 2 boxes from the farm, they come home, use the smaller one to measure for themselves and they will get about 3 of them.

To ascertain the cost of the bigger boxes he was asked how much it cost.

His remark was that:

They start from anywhere at all, you know women. They will come and give you heart-breaking prices. So at the moment we are using the basket⁹ I said TIPCEE brought. We are using it as a standard of measurement. And we saw that when you weigh it, it weighs between 20 and 23 kilos. So we have taken the 20 kilos as the standard so we load it and say it is 20 kilos. It is helpful to the farmers.

The PPRSD played a major role in the sensitization and training of farmers on plant protection. This includes plant, insects and disease control on the farm. In an interview with a PPRSD official who is in-charge of biological control, he said the biological control unit has identified mango insects as fruit fly, mango stone weevil, and mealy bug. The diseases are anthracnose and mango scarp. According to the official, PPRSD taught farmers the need to prune their mango trees to reduce dense canopy, pick falling and rotten

⁹ The basket being referred to is crate

mango from the farm and make sure that they are buried to avoid the continuation of the life cycle of the diseases that affect the fruits.

The PPRSD official in-charge of biological control was asked about the specific technical assistance it gives to farmers on pest and disease control and he said:

The Biological Control Unit of PPRSD gives what is called Bus Stopping control measure. By this, whenever there is a report of the incidence of pest infestation, BCU, visits the epidemic area and assesses the situation in order to ascertain the veracity of the infestation. It is after this assessment that we advise the farmers on how to manage the phenomenon. The advice is usually in the form of recommending appropriate agro-chemicals to be used. This is because experience had shown that whenever farmers are desperate they use any available agrochemicals without recourse to expert advice and this act of desperation has economic or financial, health and ecological effects on the farmer, consumer, and biodiversity. Again the advice will inform the farmer about the feeding habit of the insect or pest such that they can use either systemic or contact pesticides in controlling the epidemic. In other circumstances too, we inform farmers that only biological control can be effective in the control of the pest.

In an attempt to find why Biological Control Unit (BCU) of PPRSD trains farmers, the official said that:

Periodically, BCU of PPRSD trains farmers on good agricultural practices. BCU does this because first; it is believed that farmers should be able to take precaution not to build up pest and disease population in the ecology from production to harvest. Secondly, BCU does not believe that pest and diseases should attack the plants or fruits before we activate our control measure.

The farmers were also trained in record keeping. The record keeping enabled farmers find out their SWOT in management. The farmers said that they keep two types of records. The records are kept on technical and business issues. The technical records deal with the crops performance especially the plant health (disease, fertilizer application, and sanitation). The business records deal with purchases and sale. It tells the farmers' expenditure pattern, the stock level of inputs and revenue. The study has revealed that there has been a good blend between organizations from development partners and the

Ministry of Food Agriculture in improving the capacity of the farmers. However, the development partner organizations have good and reliable financial resource. This is because they are financed by state governments of their home countries such as United State of America and Germany.

The collaboration that existed between the MoFA and the development partner organizations in the mango production sector pointed to an overwhelming fact that the extension services were heavily reliant on external sources of funding. The state officials from the extension services in the study areas and the PPRSD unit have complained about the lack of funds for them to implement some of their planned programs independent of the donor support. Besides funds for implementing extension services, there is also low level of adequately trained and skilled extension personnel to improve the lot of farmers coupled with the logistics that will enable them respond rapidly to the needs and call from farmers.

The finding indicates that development partners have the flair of reaching out to rural farmers through FBOs. This study has shown that it is the easiest way of getting the dispersed and unorganised small-scale farmers together for any meaningful diffusion of innovation. As stated in Salifu et al. (2012), the broad way for rural farmers to participate and receive service delivery and input support from development partner organizations and donor projects is to belong to an FBO. The findings on MoFA and development partner organizations collaboration shows that development partner organizations like GIZ, ADRA and USAID's TIPCEE Programme played a very significant and pivotal role in the development of the mango industry in the study communities. These roles are teaming up with MoFA staff in extension service delivery, organization of workshops and training sections of the farmers on group basis and in most cases paid for the full cost of such services.

The development partner organizations also give credit support to the farmers at a highly subsidized cost. The visibility of the development partner organizations and how conspicuous their contributions are in the mango growing communities premised on the fact that the state is operating a liberalized export crop economy and has divorced herself from most of the interventions such as credit support, removal of subsidy on agro-inputs, and regular allocation of funds for agricultural extension services. The study therefore concludes that the development partner organizations have unequivocally stepped into the shoes of the state and have filled the vacuum created by state withdrawal of her interventions. It is therefore important to state that the government policy of liberalization of production and agricultural farmer education, created the political economy for development partners' participation in the mango industry in Ghana.

7.5 Food Safety Standards in the Integration of Mango Producer in Ghana

Mango production for the international market is subjected to safety standards set up by consumer protection agencies. Many European states make policies that regulate production practices that satisfy Good Agricultural Practices (GAP) worldwide which farmers in the tropical countries that produce the commodity must meet. These standards focus on the suitability of land as one of the major resources. The land is evaluated in terms of the soil safety from toxic and radioactive substance contamination and being a refuse dump. The second standard is centred on agrochemical usage for improving soil fertility, pest and diseases control, and farm sanitation. The third aspect is labour practices during the production processes in the farming communities.

It must be stated that the production communities never had the history of land/soil pollution from radioactive or toxic waste. Based on this historical fact, lands in the production communities are safe for cultivation.

Appropriate measures were taken to ensure that the mango seedlings come from accredited sources. Through GIZ's African Cashew Initiative (ACi) in collaboration with the local district MoFA officials, some number of nursery operators were trained and certified for seedling production and distribution to the mango farmers. This stand is adhered to in order to make sure that seedlings are not bought from suspicious rootstock and also to produce seedlings that can give the specification of fruits to the global market. On the account of that, one nursery operator who doubled as a farmer said:

I draw on a particular motivation as a nursery operator and this was taught during a training workshop that, a good grafted seedling will give the farmer healthy stem. The stem will in turn give the farmer more branches which will bear flowers. The flowers will give more fruit and the more fruits will translate into more money into the farmer's pocket.

Agrochemicals used in mango and any horticultural crop production are highly sensitive for the country where the commodity originates and the state or destination of consumption. This is so because crops entering into the European Union (EU) require minimum residual level (MRL) test certificate before the consignments are accepted.

In Ghana the Environmental Protection Authority (EPA) is the designated institution or agency in-charge of licensing chemical manufacture, importation and their usage. The Environmental Protection Authority (EPA) is also responsible for regulating the use of pesticides for agriculture, horticulture, gardening, public health and other pesticides related uses (MoFA 2011). It is further mandated to provide information on chemicals to the entire populace of Ghana.

The field investigation revealed that because farmers purchase their agro-input from private agrochemical store operators, the MoFA, development partner organizations and fruit processing companies engage them constantly to update them on the appropriate registered and approved agrochemical to be used on their farmers. In the control of weeds

EPA recommended herbicides that are allowed on the mango field approved by EPA. Some of the approved ones with their trade names are: caritek 80wp, chemuron 80wp, and sun-diuron 80wp¹⁰.

The finding indicates that officials of EPA do pay regular visits to the registered agrochemical dealers. These precautionary measures are taken to avoid some pesticide dealers who adulterate and falsify pesticides, by changing the expiry dates of pesticides and modifying labels on pesticide containers. The study revealed that in Kintampo North, one large-scale commercial farmer who deals in agro-input business serves as a source where his colleagues buy their agrochemicals and inputs from. The mango farmers in Yilo Krobo have stated that they have a specific and a reliable dealer where they get their stocks.

Where the land is rich in soil nutrients, farmers do not apply compound fertilizer. However, in areas where fertilizer is needed but the land is rich in nitrogen, in most cases farmers apply folia fertilizer to induce flowering. The study found out that farmers have complied with the traceability standards which require them to keep farm records on the date a particular chemical was used, the amount/dosage used, and the number of plant stands it was used for.

Mango pests, insects and diseases can cause economic loss to the farmers' household, the state of origin and pose a big health risk to the local and export markets. Some pests and diseases are: Anthracnose, fruit fly, mealy bug, mango seed weevil. Others are powdery mildew, bacterial black spot and mango rose flower beetle. Two officials from the PPRSD

¹⁰ Environmental Protection Agency, Accra, Revised Register of Pesticides as at 30th

June 2013 under Part II of the Environmental Protection Agency Act, 1994 (Act 490)

of MoFA at Pokuase in the Greater Accra Region stated that fruit fly is an important mango insect. It was discovered in Ghana in about 2005¹¹.

The fly is an insect that pierces the mango fruit and deposits its eggs into the fruit at a stage when the mango fruit is getting matured or ripened. Later the eggs develop into larvae in the fruit and a physical observation of the fruit will show that portions of the fruit are hard while other portions are soft and rotten. As soon as the fruit is cut open, one will see live worms in the fruit.

In fighting this insect, the quarantine unit of Plant Protection and Regulatory Services Department (PPRSD) has collaborated with the Tropical Crops Research Institute in Benin to help farmers control the fruit fly by deploying pheromone trap also called fruit bait. This was how one of the officials of PPRSD described how the pheromone trap works:

The pheromone trap is filled with fly attractants and killer agents mixed together. Both the male and female fruit flies are trapped and it is believed that with time their population will reduce drastically. The trapping is possible because the fruit fly reacts to several pheromone such as aggregation or alarm/danger pheromone. Once the Para-pheromone is synthesised with a particular pheromone, they get attracted to it hence the success rate of trapping.

A visit to some farms to interview farmers gave the researcher an opportunity to observe the trap being deployed on the trees in the mango farms. Farmers from the two FBOs affirmed that there was no known member that has not set the trap on his/her farm since it is a pre-requisite for Global GAP certification.

The mango mealy bug is another insect that causes destruction to the mango plant. It is a whitish looking organism found under the mango leaves. It is difficult to identify it as a living organism observed by an official from the PPRSD. According to him, the whitish substance is a secretion that does not allow agrochemicals to easily penetrate the body of the mealy bug. Mealy bug activities deprive the plant of its chlorophyll through its

¹¹ This was said by the head of quarantine unit of PPRSD of MoFA at Pokuase in Greater Accra in June 2013.

activities such as creating black dots on the leaves. It also secretes honey dew which develops into shooting mould (a whitish powder) that cover the leaves. This seriously impedes photosynthesis and once this occurs, it leads to reduction in yield and death of the plant.

Another mango pest that can devastate a mango plantation as observed by PPRSD is mango stone weevils (MSW). It is a beetle which infests the mango fruit during fruit set when the flowers of the mango are about to develop into fruits. The MSW then lays its eggs into the flower. The sticky substances or secretion of the flower cover the eggs while the mango forms into stone like seed. Subsequently, as the mango fruits start to develop well, the eggs of the MSW continue their metabolic activity, hatch into larvae which then burrow into the soft and succulent fruit. The MSW is not easily detected by the farmer and when the fruit is exported wholly, the importers in the destination countries usually use sophisticated equipment or devices to detect the presence of beetle or living organism in the seed.

One major mango disease that has a devastating effect is anthracnose. Anthracnose disease infection occurs in agro-ecological zones that have high relative humidity which occurs mostly in forest areas. It is important to emphasize that mango is not a forest crop. Anthracnose manifestation is a stain that taints the mango fruit making some black spots on the fruit. It can also cause portions of the fruit to ripe while other portions of the same fruit do not. Conditions that are favourable for anthracnose attack are dense mango canopy and high plant population per a hectare.

The economic effects of the fruit fly, mealy bug's, anthracnose and mango stone weevil infestation are that a large scale infestation can lead to fruit spoilage, economic income loss, and export ban. They can lead to high probability of crop failure.

The best remedy for the control of mealy bug, mango stone weevil and anthracnose is pruning the plants to allow aeration and avoidance of high plant population and dense plant canopy. Another measure is through good farm management practices.

The observance of farm hygiene is very paramount in the fresh fruits industry globally in order to avoid microbial contamination (Okelle and Swinton 2007). The microbes are living organisms that are capable of causing diseases and are harmful to human life. For clarity purposes, hygiene is divided into two categories. The first category is sanitation in grading and storage facilities. The second category is personal hygiene on the farm.

Farmers are enjoined to erect a shed or a structure as a collection point for harvested fruits. Activities undertaken in such a place are sorting, grading, weighing, and packaging of the fruits. The general personal hygiene includes the provision of a place of convenience where flies are screened off, clean water for drinking and mixing of agrochemicals as well as washing after the use of chemicals.

The field investigation establishes a pattern in the provision of the farm infrastructure. It was ascertained that seventeen (17) of the farmers have erected sheds for the storage of mangoes and other farm inputs. The sheds are of two types, concrete and sandcrete. About eleven (11) have concrete buildings as their storage facilities while six (6) used sandcrete buildings for their storage facilities.

All the farmers confirmed that they have constructed places of convenience on their individual farms. Eight (8) farmers said they have dug wells on their farms to enable them have access to water. Ten (10) said they have access to river water. However, fourteen (14) farmers said it is a normal practice for them to fetch water in containers from a source closer to them and get it to the farms. The enormity of the cost of constructing on-farm infrastructure is a drain on the small-scale farmers especially.

Farm certification is another production and safety standard that the farmers have to surmount in order to access the export market. The certification schemes are EurepGAP, Global GAP, and Ghana GAP. The EurepGAP is a certification on a produce from Europe Retailer on good agricultural practices. The Global GAP is a certificate on global good agricultural practices. Ghana also has its own standards on good agricultural practices set by the Ghana Standard Authority (GSA). This was disclosed by an official from maximum Residual Level tests department of GSA and attested to by officials from PPRSD.

During the period of the field investigation from September 2012 to May 2013, all the sampled farmers were certified. In the 2013 mango crop season, the crops certification body that inspected mango farms of FBOs in Kintampo North and Yilo Krobo was AfriCert from East Africa based in Kenya.

The certification scheme covers traceability records of individual farmers. The records take cognisance of plant protection (chemicals used for pest control and plant growth regulation (flower inducing chemicals), post-harvest handling of the fruit (packhouse-shed, floor, roof), waste management and personal hygiene.

The study found out that the FBOs have appointed internal farm auditors from among themselves. These internal auditors arrange with other members of the Association and visit their farms to acquaint themselves with agronomic practices that were going on. This assessment is carried out with an examination of each farmer's farm records or diary. The rationale for this internal assessment is that the external assessment and certification is group based and the inaction of a member can cause the entire membership for non-compliance. Empirical evidence based on a correspondence from IPPC to the head of the Plant Quarantine Unit of PPRSD shows that the certification for good agricultural

practices ensured by the PPRSD is an indication that fresh fruit producers are able to make obvious pledge to maintaining consumer assurance in food quality and safety.

The study has established that some FBOs have multiple buyers whose negotiated terms of payment are different. There are some buyers who demand a proof of the Minimum Residual Level (MRL) test conducted on the mango fruit by GSA or any other internationally recognized body. According to one farmer in Kintampo North, he said:

I got my fruits and that of those who operate under the nucleus farm scheme tested by the GSA through a process. Internal farm auditors go to the farms, pick fruits from the trees diagonally at random at least hundred fruits from ten trees. This is labelled as a specimen and sent to GSA (interviewee # 11).

In a related question he was asked how much a test of specimen cost? His response was that in the previous year 2012, the group paid two hundred and fifty Ghana cedis (Ghc250.00). The facts from the field data and the accounts given by officials from Blue Skies Fruit Processors suggest that mango farmers who aggregate as FBOs are far advanced in meeting global standards in production.

7.6 Discussion and Analysis of Food Safety Standards in Mango Production

Ghanaian cocoa production at the early stage up to the 1950s was affected by diseases and Ghanaian cocoa farmers undoubtedly did not have scientific measures for dealing with the swollen shoot virus and this led to the cutting down of the infected cocoa trees and abandonment of some cocoa farms (Kay 1992:13). The effect led to reduction of acreage and decline in cocoa supply. Frimpong-Ansah (1991) noted that even after a long period of cocoa production, manuring was not known in the 1900s. He noted that it was not until the 1940s and 1960s that the appropriate methods of farm practice required of large-scale farming such as pruning, manuring, pest control of cocoa, oil palm and other exportable crops were put into practice (Frimpong-Ansah 1991:28). The study finds out that in

mango production, application of agrochemical and adoption of good crop husbandry practices commenced the very time commercial large-scale mango farming emerged.

Mealy bug, anthracnose, fruit fly, are common diseases and insects that attack the mango tree. At the outset when these diseases and insects were detected and it got to the attention of the development partner agencies (GIZ and ADRA), they were quick in inviting agronomists from South Africa and Germany to deal with the Ghanaian local situation before it got out of hand. According to the agronomists from the Blue Skies Fruit Processing Company, they periodically report any local Ghanaian adverse production conditions to their major stakeholders in Britain. These could be diseases and insects attack or soil nutrient deficiency for the necessary recommendation.

Ghanaian cocoa farmers were not keen on the production of quality cocoa beans (Kay 1992:14). Lack of motivation for the production of quality beans stemmed from the fact that quality beans were not commensurate with production bonus. Second, the production of quality beans required the injection of additional money for labour and agrochemical and because there is no price differential for graded cocoa beans, farmers are reluctant to meet the quality standards that the buying firm required of them. The current study noticed that even though fruit processing companies have not established price differential practice in the purchase of mango fruits from farmers, incentives are given to farmers who have satisfied fair trade quality specification and good labour practice. This quality specification and its attached bonuses were noticed in the Yilo Krobo study area.

The study concludes that the EPA is very much alive to her core mandate of registering and recommending appropriate agrochemicals for mango farmers in the study areas.

The political economy of pest, insects and diseases control is such that the state mandated agencies particularly PPRSD have collaborated with Tropical Crop Research Institute in West Africa in Benin to help farmers fight against the fruit fly insect and other pests and

diseases. Theoretically, the PPRSD is unable to solely fight the fruit fly menace alone. It has to depend on a research institute in Benin. This is a typical example of dependent development in the mango industry.

All farm hygiene infrastructures are inspected by internally appointed farm auditors among the farmer groups. The auditors are trained by USAID and GIZ. Sometimes Extension Service Unit of MoFA pay visit to farms to inspect the facilities. The inspection activities of the internal auditors form part of farm certification.

The study finds out that rigorous activities are carried out in farm certification, minimum residual level test and commodity certification. The agencies which perform these judicial functions of the governance structure are AfriCert, GSA and PPRSD. The study concludes that as policy decision, the state institutions such as GSA and PPRSD are making sure that food safety is assured and achieved in mango production. These activities are in line with Ghana's compliance to food safety standard set by IPPC. The collaboration of AfriCert which is based in Kenya to certify mango farms in Ghana is a clear case of dependent development. This is because AfriCert is the body recognized by IPPC to certify farm to make sure that safety indicators are complied with.

7.7 Integration of Farmers into the Export Market: A Chance or Risk

Commodity chain analyses of export crops show that smallholder farmers become an integral or essential part of the global export market (Killick 2010; Little and Watts; Fripong-Ansah 1991; La-Anyane 1985). Different methods and processes such as policy, conventions and structure are used in integrating producers of different crops into the global export market. The methods and processes are the introduction of new technology in production, skill development and training of smallholders. The structure of integration is based on linking smallholder farmers to sources of input, financial institutions and marketing channels through a medium like farmer based associations/organizations.

This subtopic focuses on how beneficial or otherwise is the production of mango fruit as an export commodity to the smallholder farmer who hitherto was a food crop farmer, by examining the processes of integration such as the medium of integration (FBO), agents of integration (agronomists from MoFA, development partners and processing companies), and the enabling policy environments. Another focus is the risks which the smallholder encounters such as production, price fluctuation, the effects of boom and bust, trade tariffs and embargoes after being integrated.

Integration of mango farmers into the global commodity market can be a chance or opportunity for success. Most horticultural crops have high propensity to perish and deteriorate at a faster rate after harvest (Jeffee 1994) and based on this characteristic, it is therefore imperative to pass on quality related information to the smallholder farmers, most importantly to those in remote rural areas who are sometimes illiterate or semi-literate and who do not have access to Internet facilities to source for independent information on the mango industry.

In the study areas, it came to light that donor agencies such as GIZ and USAID in cohort with MoFA through government policy collaborated successfully in providing agricultural extension services to the farmers in their district mango farmer associations. The mango farmers indicated in their responses that ever since they formed the KINFA and Yilo Krobo Mango Growers Association in 2005 and 2003 respectively, all extension services that were rendered to them were paid for by the donor agencies like GIZ and USAID. This overture to the smallholders was premised on the fact that they are major stakeholders who play pivotal role in ensuring constant fruit supply to the exporters and processors. The statement used by some of the farmers to express how they value that opportunity is as follows:

TIPCEE a USAID sponsored programme help us (we the farmers) a lot technologically on how to cultivate scientifically to achieve desired yield through plant spacing, pest and diseases control, farm record keeping, farm maintenance, pruning and harvesting and even in the exportation of mango by sea.

The general view expressed by the farmers was that the Ministry of Food And Agriculture did not have the capacity to deal solely with the farmers and therefore it was a golden opportunity for the farmers to be integrated into the global market.

The second opportunity the small-scale farmers enjoyed was their international recognition. Farm certification is a pre-requisite for accessing the global horticultural export market. However, the cost to be incurred on the indicators for the qualification for certification is far beyond the reach of the individual smallholder farmer. Through membership of mango growers associations, smallholders are able to obtain global-good agricultural practice (global-GAP) certification through option two which is awarded on group basis.

Also some of the smallholder farmers were affiliated to large-scale farmers for the same group certification. The initial farm certification in the Yilo Krobo community was subsidized by USAID TIPCEE Programme in the early 2000 and that of Kintampo was also subsidized by GIZ's MOAP programme in the middle of the first decade of the 21st century. This finding shows that smallholder farmers who sell their fruits to processing companies and exporters earn higher income and are assured of regular payment without default and the buyers demand the prove of certification for purchasing a farmers fruits. According to the Agronomist of Blue Skies Company, their unit helps the farmers in the production process to become global-GAP complaint because the smallholder farmers are essential part of the larger Blue Skies global family.

The third chance for smallholder integration is that mango production enhances income levels of smallholder farmers. This is because, apart from selling the produce to the local exporters and processors in Ghana, some of the farmers attend food fairs in South Africa, Germany and UK. On some of these trips, the farmers have the rare opportunity to meet and have discussions with agribusiness investors and enter into alliance for input supply and injection of modern technology into production. The field statistics indicated that about 38% of the mango farmers had the chance of such trips, an opportunity that is not extended to food crop farmers except National Best Farmers in Ghana.

Fourthly, mango farmers' integration made it possible for the production community to be recognized for improvement. In the study communities, few feeder roads were constructed and existing ones rehabilitated with funds from the Millennium Challenge Account between year 2004 and 2009. This went a long way to reduce time spent on the road between the farm and the market which influence the shelf life of the fruits and reduce cost of transportation and increase farm gate price of fruits.

In addition, donor agencies and private companies were able to build packhouses in the production communities. One such facility for joint use was built at Akorley in Yilo Krobo for mango growers in Somanya and adjoining districts such as Dangme West, Manya Krobo, and Asuogyaman Districts.

Again, at Ghana's exit port in Tema, Shed 9 at Tema Harbour is refurbished as a modern cool chain storage facility for horticultural crops. The trickle down effects are that the bottleneck associated with post-harvest losses due to bad roads and variations in temperature of fruits from the farm to the final consumer is minimised. Therefore buyers can now buy large volumes of produce from farmers, store them and equally maintain the required temperature of the cargo to prevent fruit or fresh cut processed fruits from

deterioration. The implication is that once the market is there for the farmers and the prices offered for the fruits is commensurable to the cost of production, farmers' income will be increased.

The fifth advantage is that export market integration enabled smallholder farmers to better manage the environment and maintain a balance in the ecosystem. As part of technical assistance and skills development of farmers in the mango production, the smallholders acquire skills in good husbandry practices such as farm sanitation improvement through proper human faecal, pest and disease infected fruits disposal.

They also learnt the use of appropriate chemical and dosage to be used in the control of pest and diseases. This way, the rapid depopulation of agents of pollination such as friendly pest, birds and other living organisms which co-exist for sustainable and renewal of the ecosystem are maintained.

To conclude, the integration of smallholder farmers into the global market enhances their farm management skills such that they are able to keep farm records on inputs, production schedules, expenditure and revenue. As argued by Ansa Asamoah, the dual economy of the rural farmer who produces subsistence food for consumption and scanty surplus for exchange value has now diversified productive activities. The production of export crops has enabled farmers to increase the portfolio of manufactured consumer goods they use to purchase (Asamoah 2001:79:122).

Regardless of the opportunities, there are some risks associated with mango farmers' integration into the global market. The risk factors that could be associated with integration are the smallholders' farm size and non-farm investments (Little 1994) and degree of FBOs integration. Other risk factors could be alternate sources of cheaper fruits

and labour, non-tariff trade barriers (Ezeanyika 2002:65), closure of donor funding, and export embargo.

One smallholder farmer in Kintampo said that the risks they are prone to are prolonged drought and pest and disease epidemic. He said:

Rainfall, humidity, temperature, and plant pests and diseases do not wait for the farmer. When the farmer misses the planting, weeding, agrochemical application, and harvesting seasons, excessive rain or erratic rain, humidity, and temperature can affect the crops yield. He concluded that mango farming should be run as business and not suitable for part-time or absentee farmers.

This statement confirms Ayertey's argument that horticultural export crops production competes with resources (time, money, input) for food crops production because crops have differences in date and time of planting, good husbandry practices, pest and diseases control, and harvesting (Ayertey 2002:15). When the smallholder is therefore unable to apportion his time proportionately, he/she would experience low yield in the export crop and food insecurity. As a consequence, where the farm size for both the export crop and food crop is relatively small, the probability of the smallholder farmer to be exposed to risk is high if cost of food crop is high in the community and income from the export crop is not commensurate enough to buy food stuff. The situation would be aggravated if the smallholder farmer does not have a significant non-farm investment.

The next risk factor is the unpredictability of horticultural export crops trade. Little (1994) argues that where out-grower production conditions change due to policy on minimum wage, increase tariff on the export of semi-processed or value added products and tax on production equipment, rational businesses particularly MNCs would relocate to countries with favourable production conditions. In addition to that global market production specifications for commodities easily change and where smallholder farmers cannot meet

the desired specification for a niche market, they turn to run at a loss particularly where the domestic market is narrow.

This study found out that Ghana's statutory daily minimum wage of three cedis fifty pesewas (Ghc 3.50) is far below what the farmer pays to a farm labourer. Majority of the fresh fruit processing companies are registered under the Free Zone Policy and are therefore enjoying favourable tax concession and exemptions on import of production equipment and also wages are not major preoccupation of processing companies because according to the Human Resource Manager of Blue Skies, the National Labour Law allows for the regularization of the status of an employee to a permanent status after six months. Therefore the company employs wage workers and after five months, they are laid off and re-employed again after a month or two as new recruits.

On market specification, Ghana's mango fruit export is insignificant in the global market rather its fresh-cut and processed value added products are on the rise. The insignificant quantity of fruits exported is based on the aesthetic qualities of the fruits which cannot compete favourably in the global market. This risk can be avoided if domestic and regional markets are expanded to absorb the excess fruits that cannot enter the global market.

Another source of risk which the study identified is that most of the funding for extension services that are provided to the smallholder farmers were from donor agencies such as GIZ and USAID. According to one official of the extension service unit of MoFA, there is staff constraint and shortage of logistics confronting MoFA. As a result therefore the unit cannot offer adequate and efficient extension services to the mango farmers without the support of donors. Paradoxically, these funds have gestation periods after which the funding is suspended or exhausted. It was stated by one official of GIZ sponsored Market Oriented Agricultural Programme (MOAP) that when funding is suspended or exhausted,

the onus would fall on the FBOs to pay for extension services. The implication according to this study is that where FBOs are weak and cannot pay for the continuation of such technical services, the slightest climatic change with invasion of foreign pests and diseases, the smallholder farmer would be at risk due to on-farm and post-harvest losses. This is because the farmer would have to incur indirect cost such as pesticide application to reduce crop losses (Ayertey 2002). This situation would be aggravated if the fruit does not meet the Minimum Residual Level (MRL) test permissible for the export of fruits.

According to the Head of PPRSD at Pokuase in the Greater Accra Region, due to detection of fruit fly on mango cargo exported to Lebanon in 2008, the importing country embargoed import of mangoes from Ghana. It was in 2012 when bilateral agreement was signed and through that bilateral collaboration, farmers have met the IPPC standards for fruit safety leading to the resumption of mango export to Lebanon again.

In conclusion, the researcher thinks the risks in integration could be minimised depending on the commitment to and integration of the smallholder farmers into FBOs. Where the smallholder is fully integrated and committed to the FBOs and participate in training workshops and adhere to the production regiments, the risk factors attributable to the farmer would be minimized. And to minimize the external risks factors, the FBOs should be vibrant, form a broad based union, and participate in policies that would influence the mango production and export industry

CHAPTER EIGHT

8.0 MARKETING, FOREIGN DIRECT INVESTMENT AND PROCESSING OF MANGO FRUITS

Introduction

The deliberations in this chapter centred on a number of themes. The themes are the post-harvest management of mango fruits, sales outlets, processes of marketing mango fruits in the study areas, and methods of pricing. Other areas focused on are the processes of exporting mango fruits, case study: Blue Skies Fresh Fruits Processing Company and challenges faced by Blue Skies Company in Ghana.

8.1 Post-Harvest Management, Sales Outlets and Price Negotiation in Marketing of Mango Fruits

Post-harvest handling of mango fruits is an equally important stage of the mango value chain. It is at this stage that fruit contamination can be prevented and standardization of fruits can be ensured. Storage infrastructure is very paramount in the post-harvest management. The storage structures which majority of mango farmers have erected were sheds. As many as twenty five (25) farmers said that their sheds were roofed with tents, thatch, or aluminium sheets. Only seven (7) farmers stated that they heap their harvested fruits under trees while waiting sorting and grading.

It was found out that farmers who have erected sheds, twenty-three (23) farmers have concrete floors with wooden rafts on which the fruits are housed pending sorting and grading. The other two (2) farmers who also have sheds without concrete floor used plastic rubber to line the floor. The fruits storage shed is used at the farm level in performing activities such as sorting, cleaning/washing, grading and packaging. Thereupon, the fruits are transported to a collection centre within the district or municipal capital. The collection

centres or packhouse is a designated point where fruits consigned to fruit processors or fruit exporters are packed for mass haulage to their destinations.

It must be reiterated that Yilo Krobo farmers have a packhouse while the Kintampo North farmers have a collection centre. A state of the art packhouse with modern machines and equipment was built at a village called Akorley near Somanya in the Yilo Krobo District. The facility was built from the Millennium Development Account Fund. The Akorley packhouse facility is to serve mango growers from Yilo Krobo, Manya Krobo, and Dagnme West Districts in Eastern and Greater Accra Regions.

It was found out that the packhouse had some operational difficulties after an initial test run. The immediate past President of the Yilo Krobo Mango Growers Association made some statement when he was asked how the park house at 'Akorley' came about.

Interviewee: The park house came about when we signed a memorandum of understanding (MOU) with TIPCEE in 2006. TIPCEE's aim was to develop the export trade of fruits and vegetables in Ghana. So when they saw our production capacity, they decided to put up a pack house so that we could export the mangoes by sea. In fact, without a pack house in which there is a cooling system we cannot export by sea. So we started with TIPCEE but somewhere along the line, funds for that particular project dried up. However, they were able to give us the architectural drawing, we acquired the land and showed them the land but in an attempt to construct, their term of stay was due. We then switched to EDIF for assistance. They accepted our proposal but they failed us until we sent an application to MiDA, who finally put up the park house for us.

He was then asked to ascertain if the pack house was functional at the time of the interview. His response was that during the past year an Indian came in to test run the machines and eventually used the pack house. But unfortunately after two exports he had some challenges in operating the machines. The respondent said:

We could not tell if it was the man who was not technically competent or not. So we drew the attention of MiDA. Unfortunately by the time we brought these challenges to their notice, the mango season had ended. So we all agreed that this season, we will test the machines and then commission. Another

challenge was that the Indian who used the place did not pay utility bills (electricity and water bills) amounting to about ten thousand Ghana cedis. He also failed to pay for some fruits he bought from the association members. We in the Yilo Krobo Mango Growers Association have paid for the utility bills and power has been installed. I can say that, from May/June, 2013, the pack house is going to be in full operation.

Due to the technical challenges that were encountered after the initial trying, farmers have to store their fruits in their individual farm houses until they are called to honour their supply schedule.

In Kintampo North, farmers have access to two collection centres. One of such collection centre is owned by one individual mango farmer who is also a member of the Kintampo Mango Farmers Association (KINFA). During the formation stages of the association, he opened the facility to all KINFA members. However, he is now a commercial farmer who has out-growers under him. As such the facility is only accessible to him and the out-growers he works with. The second collection point in Kintampo is an abandoned District MoFA Warehouse which was subletted to other mango growers outside the out-grower scheme.

There are some specific logistics that are use in protecting the fruits from being damaged. The study found out that twenty-three (23) farmers used plastic crate containers to pack their fruits from the farm gate to the collection centres. These consist of sixteen (16) large-scale commercial farmers and seven (7) small-scale farmers. The other nine (9) are small-scale farmers .the study revealed that they heap their harvested fruits into any appropriate means of transport available to them and send the fruits to the collection centre.

The means of transport that farmers use in conveying their fruits to the collection centre and packhouse ranges from tri-cycle, tractor with trailer, pick-up and flat-body seven tonne vehicles. Those farmers who could not afford any of these and who have their farms close to the collection centre said they engage head-porters. Most of the farmers complained

about the deplorable state of both their farm link roads and that of their community feeder roads to the main trunk roads to the District and Municipal capitals. As a consequence fruits are damaged as a result of bruises the fruits sustain particularly fruits that are just heaped into the conveying vehicles.

Sales outlets is another important aspect of the mango industry. The mango growers have several options of sales outlets for their produce. They have access to three main markets within Ghana. These markets are fresh fruit processing companies, local fruits exporters, and the local traditional marketers. The main fruit processing companies in Ghana which the mango farmers confirmed they have economic relationship with are Blue Skies near Nsawam and HPW at Adeiso in the Eastern Region of Ghana. The third one is Integrated Tamale Fruit Company located in Tamale in the Northern Region of Ghana.

Two of the local fruit exporters who deal with mango farmers in the Yilo Krobo study area are BOMART Farms in Volta Region and Evelyn Farms in the Greater Accra Region. The traditional local markets are dispersed in the regional capitals and major urban centres found all over the country. By their trade practices, there is no farmer who sells exclusively in a single market.

The finding indicates that twenty-eight (28) farmers sold their produce to both processing factories and the local markets. They also indicates that two (2) farmers patronized processors and exporters, exporters and local markets, and processors, exporters, and local markets respectively. In a nutshell, all the farmers sold their fruits to fruit processing companies and to the local market respectively. However, only six (6) farmers sell to the fruit exporters.

In marketing mango fruits, two strategic approaches are used. These are supply driven and demand driven approaches. Under the supply-driven approach, two processes were

followed. These are the formation of FBOs and the subsequent inauguration of marketing committees within each of the FBOs in the Yilo Krobo and Kintampo North local assemblies. It was stated earlier in this study that one of the paramount objectives of the mango growers FBOs in the study areas is to help members market their fruits or look for collective market outlet for members produce.

To achieve their objectives, the FBOs were aided by two agencies which are USAID's TIPCEE project and GIZ's MOAP Initiative. The first marketing innovation that was diffused among the mango growers was TIPCEE's introduction of farmers to the use of a standard measure which is the use of 20 kilogram plastic crate for all categories of buyers.

This is how respondent #12 put it:

It was TIPCEE program that introduced us to the use of a standard instrument for measuring our produce instead of the use of "*traditional baskets or tomato boxes*" that have arbitrary sizes. In addition to the standardization, TIPCEE organized a workshop for we the farmers and it was at that meeting that the facilitator, Mr. Johnson, who was invited from South Africa took us the participants through how to run mango production as a serious business.

The second marketing innovation was the inauguration and training of marketing committees in the FBOs at the local assembly level by GIZ. The training activities were done through GIZ's Market-Oriented Agricultural Programme (MOAP) in collaboration with MoFA. A component Manager of GIZ whose office is located in MoFA headquarters and in-charge of policy advice said:

GIZ's core value is to make sure farmers are fully organized and then we go in to build the farmers capacities to enable them negotiate produce prices with buyers. The group leaders must tell the buyers about the group's membership, total acreage (production capacity) of the group, and the price that the association expects.

In the Brong-Ahafo Region a successful attempt was made at forming a regional marketing outlet known as the Made Ghana Commercial Mango Growers Association (COMANGA). The COMANGA has constituent district level association members affiliated to it. The composition of the affiliated association members are representatives in about ten districts from Ashanti and Brong-Ahafo Regions. The affiliated members from Ashanti Region are Ejura and Sekyere-Odumase.

In the Brong-Ahafo Region the members are Kintampo North and South, Nkoranza North and South, Techiman North and South, Wenchi, Atebubu-Amanteng, and Sunyani East and West. There are other subscribed members of COMANGA such as Tano North and Brekum.

COMANGA is headed by a GIZ trained Agro-Business Development Manager (ADM). His responsibilities are to look for market for the District Association members and link them to fruit processors and exporters. The ADM is assisted by special marketing agents at the district level who work directly under him. The marketing agents at the association level in the district are responsible for looking out for quality fruits/produce. They also make sure that fruits at collection centres at the district levels are sorted well according to size/grade, cleaned and packed in an appropriate plastic crate ready for onward haulage to the buying centre in the factory or exporters' warehouse.

It was realised during the study that when supply orders are given to the FBOs to honour fruit supply, the association adopts a quota system in apportioning what each member is to harvest to meet the association's supply volume. The study took interest and cognisance of how the supply orders received from the buyers are distributed among the members of the FBOs on the quota basis. This is because it is not every farmer who has the opportunity to sell to the exporters and processing factories due to the volume that is requested from a

particular association. If this is not handled properly to the satisfaction of the group members it can lead to internal conflict and implosion.

In a response to a question regarding how supply is equitably distributed among group members, this is what respondent #26 from Yilo Krobo said “the sharing is deferred to the association’s marketing committee”. The practice in Yilo Krobo is not too different from what pertains in Kintampo North. The secretary to KINFA explained what the Association does to select group members who are to supply their fruits/produce from KINFA to either the processors or exporters.

Interviewer: how do you select the group members? He said:

Usually when the order is placed for example 20 tonnes, we call our members to inform them that buyers are coming and they need only 20 tonnes, so those who have matured fruits and are ready should supply. We call those who have certificate, who have mangoes that are matured which if the fruit is allowed to stay on the trees within days it will ripe. We do not want that to happen to our members. We get that number of people who are ready and we share the tonnage required. That is what we normally do, because all the fruits do not mature at the same time.

The Secretary explained further that at times when the association sees that the volume that is requested for are small, opportunity is given to those who are harvesting from more distant areas to harvest large volumes so that their transportation cost will be reduced. According to him this strategy is adopted because when they imagine somebody whose farm is 23 kilometres away and others are 6 kilometres away we do encourage competition against such persons. So we give them a fair share so that in the near future nearby farmers will also have their share of supply.

The Secretary went on to give avenues which they used, through which they compensate those who could not supply their fruits to the exporters/processors at a particular order time. He said that fruits which are supplied to the exporters and processors are not allowed to ripe on the fruit trees. They have a certain number of days to meet from the fruit set to

maturity. They thereafter propose that harvesting should be done within those specific intervals when the fruit is deemed to mature but not necessarily ripe on the tree. Based upon this technical advice, farmers who missed the opportunity or privilege to supply, later when their fruits are ripe to the taste of the local markets, we in the KINFA recommend to them that they should harvest and serve the local markets to prevent losses.

The second marketing strategy adopted is the demand-driven approach. This approach is an induced initiative from the Fresh Fruit Processing Companies and the Fruit Exporters. The processing companies and exporters invested in production schedule of farmers through technology, skills, and logistics. The scheme under which farmers and processors operate fit into Daddieh's (1994) contract farming. Under this contract production scheme, the agronomists from the processing companies scout for raw materials from farmers for the company.

Fresh Fruit Processors organise skills training for the farmers periodically, offer them suggestion and planned production and supply schedule with the farmers. According to the Agronomist and Procurement Officers at Blue Skies the training that they give the contract farmers are technical and the activities are focused on training, the performance of the fruit trees particularly the plant nutrients required at a specific time of production and how to measure chemicals. These services are offered the farmers in order for them to achieve maximum/moderate production.

In collaborating with the assertion by the Blue Skies officials, this was what the COMANGA Agro-Business Development Manager has said about the fruit processors and exporters:

Ever since the Association received its certificate of incorporation and entered into business with processors and exporters, there has been continuous dialogue between us. These three companies support us with inputs such as agrochemical and logistics –crate. They supply us with flower induction fertilizers, insecticides for the control of fruit fly, stone weevils, and anthracnose.

Finally, they conduct farm audits to ensure that their contracted farmers conform to global good agricultural practice standards on their farms. The processing companies have their traditional fruit suppliers who they give first priority and supply from FBOs. The factory purchase schedule is determined by the volume of order that their consumers in the EU placed.

In which ever marketing strategy used i.e. whether supply-driven where the ADM at the FBOs go out to look for market/buyers for members' produce or demand-driven where it is the processing companies which scouted for raw materials, one thing which is certain is that there is yield analysis. The yield analysis is discussed in the next paragraph.

Amoah (1998:6) stated that the price paid to cocoa farmers was based on an existing price at the destination at the time of shipment or on the existing price at the destination factory a week prior to the shipment of the cocoa beans to the United Kingdom. However, from 1947 onwards, when Cocoa Marketing Company –CMC (UK) Ltd. was established to be in charge of marketing Ghana's cocoa in Britain, it was COCOBOD who fixed a pre-determined producer price before the inception of any crop season (Amoah 1998:93). The pricing situation is not markedly different from what pertained in the oil palm industry. Contracted out-growers in Ghana received a price which is based on what is determined by the world market price (Huddleston and Tonts 2007).

FAO (1999) is of the view that state intervention in pricing and marketing of export crops which pre-dated the independence of most Sub-Saharan African countries and maintained even after post-colonial era have some merits. Their position was that farmers were guaranteed secured market. As an egalitarian system every farmer enjoyed equal price of the same products irrespective of their geographical location in the country in terms of point of origin of the produce.

The finding from the study shows that under the liberalized market regime, the private processors have limited quantity of produce that they can procure. This is because in their operation they only buy the raw materials from farmers and process it based upon orders which their customers had placed from Europe. As a consequence it is not every mango farmers' fruit that would be purchased. Those hard hit are farmers in remote rural areas in Kintampo North and communities which are comparatively significantly far from the processing centre and the port of exit.

The egalitarian bulk purchase of cocoa, sheanut and coffee also enabled the government to collect taxes from the farmers for development at a low cost. The study revealed that under the free market system of non-traditional crops such as mango and other horticultural crops, the farmers are not taxed directly. Therefore it makes mobilization of tax revenue from the sector very unreliable.

Under the state marketing board system, the haulage of cocoa, shea nut, and oil palm fruits were done by the state institutions and the agencies responsible for the purchase and export of the export crops from the purchase depot to the port of exit or processing centres (Daddieh 1994; Kay 1992; Amoah 1998; Chalfin 2004).

The findings show that crop buying arrangement with the private sector proved to be unsatisfactory in terms of transportation of the farm produce to the factory gate. It is the farmers themselves who are responsible for the transportation of their farm produce to the factory before the fruits are valued and paid for by the factory. It is the farmers who bear the cost of transporting the fruits to the factory. This to all intents and purposes erodes the profit margin of the farmers

Price negotiation is a stage which farmers and buyers attached much importance to. The negotiation for prices and volume of fruits to be supplied starts a week or a week and half to the harvest of fruits. However, this is preceded by yield analysis which is the testing for

quality standards. The yield analysis is done on the mango plants on the farms by the agronomists of the buying companies. They do this to ascertain the quantity and quality of fruit set on the mango plants, how matured the fruits are and to arrange the supply schedule for the fruit harvest to commence.

According to the ADM of COMANGA in Brong-Ahafo who represents mango farmers in Kintampo North, the price negotiation is done on group basis. One negotiation is between the individual processors and the mango growers. Another negotiation is between exporters and the mango growers. The team of mango growers comprise a cohort of Regional and District Association of Mango Growers. These group representatives are from Greater Accra, Eastern, Volta, and Brong-Ahafo Regions.

The Eastern Region Mango Growers Association is usually represented by the Yilo Krobo Mango Growers Association. COMANGA then represents Brong-Ahafo and Ashanti Regions.

During the price negotiation, things that are considered in the agreement are the cost of Global GAP certification done on behalf of the farmer, the cost of trainings run for the farmers, and the price of the orders placed by the consumers in the E.U. The Procurement Officer at Blue Skies stated that the price computation at the factory takes cognisance of the cost of production, transportation, fruit quality and other over head expenses.

The price of a kilo of mango varies according to the order price to be paid by the consumer in the E U, the scarcity of the commodity and overheard cost of production of the factory. In the 2013 major harvest started from April, the price quoted for one kilo of mango was 65 Ghana Pesewas at the beginning of the harvest. However, when the fruits became scarce, the price was raised to 75 Ghana Pesewas. The price quoted in 2013 season was the factory price and not the farm gate price. This is because it is the responsibility of the

farmer or the representative association Sales Manager to deliver the fruits at the factory for weighing and subsequent payment.

The analyses of post-harvest management, sales outlets and price negotiation have revealed political and theoretical issues. One finding on post-harvest management of mango fruits shows that more than two-thirds (25) of the mango farmers have their own on-farm storage facilities particularly, all the sixteen large-scale mango farmers.

Politically, donor partners have dominated in the provision of a common storage facility in Yilo Krobo. This common storage facility was financed and built by MiDA. The local assembly has not provided any of such facility in Yilo Krobo. However, in Kintampo North, the Municipal Assembly plays a prominent role in the provision of storage facility by allowing the mango farmers association members to store their mango fruits in one of their warehouses. There is one large-scale farmer who also allows some farmers under the nucleus farming scheme to use his personal packhouse for the storage of fruits.

The study concludes that storage infrastructure development is split between donor partners, the state and individuals. This is because the development of modern storage facility in Yilo Krobo theoretically, is dependent on donor partners. However, in Kintampo North, storage facility development is dependent on the individual large-scale farmer and the Municipal Assembly.

The finding on means of transportation points contrary to what pertains in the transportation of mango fruits in Mali. In Mali, fruits are transported in cool vans from the collection or packhouse to the marketing centres (processing factories or port of exit) stated by Sagho et al (2010). The cool vans ensure that the cool chain system is not broken and it also reduces the high rate of fruits deterioration. Another phenomenon which the study revealed as the cause of fruits spoilage is the wanton erection of speed ramps on roads from the production communities to the buying centres.

The study also finds out that MNCs dominated the high value fruit processors market. the Multinational fruit processing companies are Blue Skies, Hans Peter Werder (HPW) and Integrated Tamale Fruit Company (ITFC). The exporting companies are a mixture of sole Ghanaian company called Evelyn Farms and mixed-race Ghanaian-Lebanese Company called Bomart Farms. This evidence shows that high value market for mango is dependent on MNCs than the domestic markets.

In the absence of marketing boards in the horticultural sector due to state policy of market liberalization, the private sector has developed some institutions to be in-charge of marketing of mango fruits. These institutions are market committee, marketing gang/special agents who are in-charge of quality control and Agro-Business Development Manager (ADM). The effective and efficient operation of the committee, gang/agents and ADM was possible through donor partners' programmes such as Trade Investment Programme for Competitive Exporting Economy (TIPCEE) and Market Oriented Agricultural Programme (MOAP) sponsored by USAID and GIZ respectively.

Theoretically, the development of mango marketing in Ghana is sponsored and controlled by donor partners. The study concludes that action and in-action of the state made the donor partners take the lead in the development of the marketing aspect of the mango industry.

8.2 The Domestic Marketing of Mango Fruit

Marketing of mango fruits and value added produce in the local markets is another component of the marketing system in Ghana. Business and Financial Times of 2nd September, 2013 stated that an acre of 4 year old well maintained mango farm could yield between 1.5 to 3 tonnes, and that will earn the farmer Ghc 1000.00.

Two officials from MoFA and GIZ, (key informants) stated that the yield of a hectare of mango farm could be based on the age of the mango trees. First, from 4 – 7 year trees, the

estimated yield is 8.75 tonnes per a hectare. Second, 8 -16 years old trees, the estimated yield per hectare is 12.5 tonnes. Third, for 17 years and above trees, the estimated yield is 10 tonne. Mango trees above 17years decline in yield. The estimated gross income per hectare of a mango farm calculated based on field interview is discussed in the next paragraph.

The price of one kilogram of mango fruit sells at Ghc0.75. Since 1000 kilograms is one tonne therefore one tonne of mango if sold to the processing companies will earn Ghc 750. As stated where the mango farm is about seven years old the average yield could be 8.75 tonnes. Therefore one hectare of mango farm would earn the farmer Ghc 6,562.5 if he/she sold to processing companies. In the local market, the price of a kilo of mango cost Ghc 1.00. This therefore implies that gross income from a hectare would be Ghc 8,750.00.

Within the 2013 purchasing period, COMANGA which represents mango farmers in Brong-Ahafo and part of Ashanti Regions supplied about one hundred and eighty metric tons (180 metric tons) to the processors on behalf of Kintampo Mango Growers Association. One respondent in Kintampo who is a commercial farmer and has out-growers under him does his own marketing. According to him he was able to sell about four hundred and forty (440) metric tons.

In summary, fruits supplied to processors from Kintampo North in the 2013 major season were 620 metric tonnes. The Yilo Krobo Mango Growers Association was able to sell about one thousand four hundred and fifty (1,450) metric tons to fruit processing companies.

Interviewee #26 who is traditional supplier of fruits to Blue Skies stated that:

I started supplying Blue Skies since 2003 that is before the Yilo Krobo Association was formed. So I'm a traditional supplier. Personally, I'm about to hit 200 tons supply to Blue Skies this season aside the 1,250 metric tons

quantity that will come from the association. So you can see the volume of fruits that Blue Skies buys from Yilo Krobo Mango Farmers Association. And I have to cease this opportunity to thank them.

The volume of fruits sold to processors and exporters as reported by the respondents above is presented in a diagram as follows:

Table 8.1: Volume of mango produce sold to processing companies (metric tonnes).

Study Communities	Quantity of Mango Sold to Processing Companies				
	Blue Skies	HPW	ITFC	Adena	Total
Yilo Krobo	900	400	150	1450
Kintampo North	140	180	300	620
Total	1040	580	300	150	2070

Source: Field data collected from Jan-August 2013.

It could be deduced from the volume of fruits supplied to the fruit processing companies that in the 2013 major season, mango farmers made a gross income of about Ghc 1,552,500.00 at the selling price of Ghc 0.75. At any rate, the field data suggested that the estimated mango production within the same 2013 major season from the 404 hectares cultivated by the mango farmers would yield 4795 tonnes (see appendix 2). From the above figure of 2070 tonnes that went to the processors, the local fresh fruits markets have absorbed 2725 tonnes and that would yield an income of Ghc 2,725,000.00 as a kilo is sold at Ghc 1.00.

It is a fact that the processing factories and exporters are unable to absorb all the fruits produced by the mango farmers. As a result, the local traditional market became an alternative option for disposing the produce. Even though the farmers are at liberty to find market for their produce individually, part of the FBO core objective is to assist members market their fruits. In line with this provision, plans are put in place to fulfilling that obligation.

Empirical evidence in the study areas which show that there are GIZ trained marketing gang also known as special agents in each of the study districts. These localised agents are the quality control units of the COMANGA in Kintampo North and marketing committee in Yilo Krobo. The special agents who are trained in marketing strategies look out for quality fruits and ensure that at the collection points the fruits are sorted, cleaned and packed for onward collection to the designated markets. They also coordinate sales to the traditional local markets by scouting for the local market women all over the country.

Through the effort of GIZ's MOAP program, the traditional local buyers have been identified at their various locations. There has been total enumeration of these private women and groups who deal in mango purchase and sale. Their list includes name, location and contact number. They also attend value chain meetings held by GIZ with the FBOs. It must be emphasised that this is the group which the special agents at the district level coordinate their activities with for the farmers.

The coordination activities that the special marketing agents undertake on behalf of the farmers in the district mango associations attract a charge or commission for connecting the farmers to the traditional local markets. But the study finds out that such commissions are retained at the district levels and used for administrative and travelling expenses of the association/organization.

8.3 Accessing the Export Market

The export of mango fruits from Ghana to EU has suffered some setbacks in the years 2005 to 2009 export seasons as indicated in an interview statement by the Head of Plant Quarantine Unit of PPRSD Department of MoFA at Pokuase in the Ga West Municipal assembly. She said:

Mango export from Ghana was embargoed in the recent past due to non-compliance with phytosanitary standards instituted by IPPC.

The head of plant quarantine unit at PPRSD of the Ministry of Agriculture in an interview said currently Lebanon in Middle East is one of the major export destinations of Ghana's mango fruits during the 2012-2013 export seasons. This came to fruition when the government of Ghana and the Lebanese government through the Embassy in Ghana successfully signed a bilateral export trade agreement. In the agreement, Ghanaian farmers are to ensure that fruits produced and exported to Lebanon meet high level of safety compliance particularly the fruits should be free from fruit fly (botanical name: *Bactrocera Zonata* infection).

The Quarantine Officer was emphatic that Ghana never experienced the *bactrocera zonata* species of fruit fly which is the main health concerns of the Lebanese and the EU markets. She however, conceded that the indigenous Ghanaian fruit fly is the species called *Ceratitis Cosyra*. She also acknowledged that in 2004, Ghana recorded the presence of fruit fly species called *bactrocera invaden* which has invaded Africa from the Mediterranean Region. She was quick to add that the two species do not have devastating effects on the Ghanaian fruits export.

Several preparatory activities are undertaken to make sure that Ghana lives up to her obligation in the bilateral agreement. At the beginning of every production season after flowering is induced and fruit sets are formed, PPRSD do perform two routine field activities. The PPRSD Officials have organised stakeholder consultative meetings with exporters, (1) to identify mango farmers they would like to buy from or work with, (2) FBOs are also asked to ascertain which members within their association are willing to export their fruits.

The next activity that the plant quarantine unit of PPRSD undertakes after the initiation of identification and selection is going to the local production communities to train all the

FBO members. The participants in training include those elected farmers and non-selected farmers.

The PPRSD's field training is a collaboration work with the National Fruit fly Management Committee (NFMC) to set fruit fly traps called pheromone trap. The trap is made up of a synthesised pheromone which contains methyleugenol attractants which is mixed with contact insecticide (*Malathion or deltamethrin*) and the insecticide possesses knockdown effects.

Upon the completion of the preparatory ground works, Lebanese Agronomists visit the selected Ghanaian mango farmers and conduct farm audit as stated by the Head of Plant Quarantine Unit at PPRSD. The field interview revealed that during the period of the study, the Lebanese Government had selected 15 farms to have qualified and free from *bactrocera zonata*. Only fruits from these 15 farms are accepted to enter the Lebanese market.

Plant Quarantine Unit of PPRSD is recognised as the competent authority in Ghana for managing horticultural crops and their core business is to ensure that farmers adopt production quality standards. The Plant Quarantine Unit of PPRSD because the international community have realised that they had adopted and applied Ghana Standard Authority's (GSA) marketing standards for fruits and vegetable which is a composite of IPPC standards.

As part of its mandate, the Phytosanitary Inspectorate Unit of Plant Quarantine undertakes monitoring visits to exporters' packhouses. Some of the exporters, whose facilities were visited, according to the Head of Plant Quarantine Unit, are Bomart and Bassam Companies. The Phytosanitary Officials usually observe how the fruits are washed with chlorinated water and the application of wax on the fruits before they are packed for export. Again, at exit ports, the inspection officials undertake visual inspection of boxes

packed with mango fruits. They sample and pick boxes containing treated mango destined for export markets. When these lay down procedures are exhausted then the Plant Quarantine Unit would certify every consignment of mango fruits that leaves the Ghanaian shore. This is what the Head of Unit said:

The fruits export certificate issued by the Plant Quarantine Unit of PPRSD, is the plant passport. Therefore I can say without any contradiction that if a fruit exporter sends his/her fruits without the appropriate phytosanitary certificate, the consignment would have been deemed to be non-complaint.

The consequence of such negligence is the refusal of entry of the produce and its accompanied destruction of the consignment at the expense of the consignee.

8.4 Foreign Direct Investments into Agro-Fruit Processing Companies in Ghana.

The agro-industrialization of mango industry in Ghana is discussed with the concept export-oriented industrialization (EOI) under international division of labour. McMichael (2012) stated that Fresh Fruit Processing Companies from industrialized countries usually relocate their processing activities in the developing countries such as Ghana to set up their production units. To protect these infant industries, the host state government granted the investors corporate concession through legislations (McMichael 2012).

This study has categorized the processing of mango fruit in Ghana under the export-oriented industrialization. The discussion on the investment climate created for investment in the value additions to export crops will then show the influx of FDI into mango and other horticultural crops processing. Two Ghanaian policies are used in the discussion of the FDI and these are: The Ghana Investment Promotion Council (GIPC) Act (Act478) and Free Zone Enterprise Act (Act 504).

Ghana's Investment Promotion Centre Act 1994 (Act 478) among other things stated that:

(1) business adding value to crops produced in Ghana other than their raw state, shall enjoy a tax holiday of 3 years from the day of commencement of business, (2) agro- processing business established in Ghana after 1st January, 2004 shall enjoy a 5 year tax holiday from the date of commencement, and (3) there are exemptions of import duties on imported plants, machinery and equipment and, zero rated tariff incentive for agro-input, plant and machinery.

The Ghana Investment Promotion Council (GIPC) Act (Act478) proposed that businesses adding value to crops produced in Ghana other than their raw state shall enjoy a tax holiday of 3 years from the day of commencement of business. It further stated that agribusinesses established in Ghana after 1st January, 2004 shall enjoy a 5 year tax holiday from the date of commencement. Furthermore, Act 478 granted exemptions of duties on imported plants, machinery and equipment.

In 1995, the Free Zone Enterprise Act (Act 504) was enacted to facilitate the grant of licenses to enterprises which intend to establish and do business in Ghana. under the Free Zone export processing policy, aspect of the act that deals with wooing investors and grant possible incentives for their operations are stated under clause 13 (2a) of the Act. It is stated that:

A free zone enterprise shall be free to process and manufacture any foreign or domestic raw material, for export or re-export. Clause 28 (1) Free zone developers and enterprises granted licences under this Act shall be exempted from the payment of income tax on profits for the first ten years from the date of commencement of operation.

McMichael's (2012) stake on free zone export processing companies is that they are specialised production estate with minimal custom control. They are mostly exempted from domestic tax, they receive imported raw materials to supplement domestic ones and export finished output by sea or air.

This study has found out that there are three major fruit processing companies processing and adding-value to mango fruits in Ghana. These Fruit Processing Companies are shown in Table 8.2 by date of incorporation, ownership and products they produce.

Table 8.2: Some Fruit Processing Companies in Ghana by Ownership and their Items Produce

Name of Industry	Date of Incorporation	Ownership	Produce
Blue Skies	1997	UK Company	Fresh Cut Mango, Pineapple, Coconut, and Pawpaw
Hans Peter Werder (HPW)	2000	Swiss Company	Dried Cut Fruit, and Jam
ITFC	1999	Ghanaian & Dutch Company	Dried Cut Fruit and Puree

Source: Peter Jaeger (2008).

Table 8.2 shows that Blue Skies is a British owned company. The value-added products of the company are fresh-cut mango, pineapple, coconut and pawpaw. Hans Peter Werder (HPW) is another foreign owned Swiss Company which produces dried cut fruit and jams. Integrated Tamale Fruit Company (ITFC) is a further confirmation of foreign owned Ghanaian partnered company. The company produces dried cut fruit and puree.

These companies are established under the free zone enterprise Act (act504) and GIPC Act (Act 478). As an agro- processing business incorporated in Ghana after 1st January, 2004, they enjoy a 5 year tax holiday from the date of commencement. They have equally benefitted from exemptions of import duties on imported plants, machinery and equipment which they are using for production.

Likewise, as a Free Zone Enterprise, they are free to process mango imported from foreign countries during the off-season in Ghana for export or re-export without paying import duties. Because the Act exempted enterprises under clause 28 (1) from the payment of income tax on profits for the first ten years from the date of commencement of operation, these companies are not paying profit tax.

The analysis of the data presented is a clear indication that there has been FDI in the processing segment of the mango industry. This study attributed the FDI in the industry to the enactment of GIPC Act (Act 478) and FZE Act (Act 504). Through these policies, there has been an inflow of capital (machines, money and human resources) to promote agro-processing industrialization in Ghana. Subsequent to that the processing activities of these companies through their FDI has given confidence to the Ghanaian mango farmers to produce because there is existing market for their farm produce. The study concludes that theoretically, there is a sign of dependent development because these industries which were established by capitalists from foreign origin are the ones which Ghanaian mango farmers depend on for their livelihood and growth in income.

Unlike the state marketing board system where the board was mandated to purchase every farmer's produce, the situation is different under the liberalized marketing system. The FBOs were given quota to supply, based on the order placed by their customers in Europe. At the association level, the marketing committee distributes the volume that will meet their quota among the member farmers. Sometimes the distribution is skewed in favour of the executive to the displeasure of the members. This leads to conflicts between the association executives and the other association members. Sometimes the struggle is reduced to a conflict between the smallholder and large-scale farmers.

In the estimation of the study, the two political economic policies to industrialize the agro-processing sector have some repercussions for the state and citizens. Under the marketing board regime, the state accumulates revenue through foreign earnings from the export tax on export crops and the revenue was used for the development of the entire country. This was how Frimpong-Ansah (1991) captured what Kwame Nkrumah, the First President of Ghana said:

“A tax on cocoa was justified and the funds that accrued to the state would be used by the government on expanding the economy of the country as a whole, with reference to agriculture” (Nkrumah 1957:179 c.f Frimpong-Ansah 1991:84).

As mango is marketed under a liberalized trade regime without government intervention, how would the state raise revenue from the mango industry within the ten years tax exempt period? The position of this study is that the concession period for tax exemption is arbitrarily too long. Majority of the processing companies are also foreign owned. This is because very crafty businessmen and women may fold up after the expiration of the ten years and re-establish under new brand-name and Board of Directors to enjoy another tax exempt. When this phenomenon continues on a large scale involving free zone processing export companies the state will lose revenue that could be used for national development.

In Ghana, the ruling class and the elite have divergent views on industrialization and development. The CPP government led by President Nkrumah based her development ideology on socialism with state control of the economy. His industrial development was to link agriculture to industry through large-scale state farms and the importation of machines and equipment for the manufacture of consumer goods. The successor regimes such as the NLC and the Busia led Progress Party abandoned the socialist ideology of Nkrumah and adopted capitalist ideology with free market enterprise and in accordance with economic policy privatized some of the state institutions such as Bonsaso Rubber Estate and Tyre Factory, Prestia Gold Smelting Factory, and Ghana Textile Printing (GTP) in Tema and left some to waste (Dzorgbo 2001).

Ghana's state policy on the promotion of export crops in general and horticultural crops in particular has led to dependent development in the mango industry since the Fourth Republic in 1992. Two main investment policies that have contributed to this development are the GIPC Act 478 and Free Zone Act 504. As a result of the investment opportunity in

the GIPC Act 478, WIENCO, a Dutch-Ghanaian joint venture developed organic out-grower mango farm scheme in Tamale with their subsidiary company ITFC. In this project, about 25 percent of 160 hectares are under drip-irrigation. The supply of agrochemicals to the Ghanaian market was boosted by WIENCO which was registered in 1979 but expanded and diversified the company's import portfolios to include fertilizer, pesticides, herbicides and fungicides.

8.5 Case Study: Blue Skies Fresh Fruits Processing Company

Blue Skies is a Free Zone Fresh Fruit Processing Company established in Ghana in 1997 under the Ghana Free Zone Policy Act 1995 (Act 504). This was in response to the Ghana government's policy that made provision for citizens or foreigners to set up enterprises to process and manufacture raw material from either domestic or foreign sources for export or re-export clause 13 (2a) of Free Zone Act 1995(Act 504).

Blue Skies Company is located at Dobro near Nsawam in the Eastern Region of Ghana and it is about two kilometres north of the Ga West Municipal Assembly in the Greater Accra Region. The founder chose the Nsawam community due to its closeness to fruit producers and its awful high joblessness among majority of the youth. It is also worth to note that Nkrumah's CPP Seven Year Development Plan started Nsawam Cannery to process fruits but this agro-processing came to halt after he was overthrown in February 1966.

The founder of the company is Anthony Pile and four other partners including one Ghanaian Mr. Seth K. Dei. The Company was finally incorporated as a joint venture in 1998 as Blue Skies Holdings Limited with the Brand name Blue Skies. The production company is located in Ghana while the ancillary exporting company is in the United Kingdom and it is the Marketing Division that markets value added produce in Europe. The raw materials that are processed into fresh-cut in the company are mango, pineapple,

coconut, passion fruit, and banana. The Production Manager of the Company said in an interview that:

Our production is based on the specification that the importer requires of us. The order can be only mango, coconut, banana or a combination of any of these fruits. Upon the receipt of these specifications we notify the Procurement/Purchasing Officer to get us the required quantity of the fruits so as to meet the ordered for the importer.

The Company was set up as a Free Zone Factory and for that reason it is exempted from tax after it secured the certificate for the commencement of business and registration. One of the Executives of the Company in the Human Resource Development unit said:

Thereafter we register with the Free Zones Board as a Free Zone Company. This qualifies us to be exempted from a lot of taxes such as import tax on equipment, production and packaging materials, excise duty, sales and export tax. Initially, the exemption was 10 years and we have passed that span therefore we have been renewing the exemption periodically on yearly basis.

The above statement confirms part of the provision in the Free Zone Act clause 28 (1). It states that:

Free zone developers and enterprises granted licences under this Act shall be exempted from the payment of income tax on profits for the first ten years from the date of commencement of operation. (2) The income tax rate after ten years shall not exceed a maximum of 8 per cent. (3) A shareholder shall be exempted from the payment of withholding taxes on dividends arising out of free zone investments (free zone Act,1995 (Act 504).

The Blue Skies Company has four main Departments in the Ghana Operation Office. These are Human Resource Development, Agronomy, Production, and Procurement. There are different skill levels of personnel in the factory. There are two main types of personnel, these are: management level personnel from the Departmental Heads to the Specialized Skill Technocrats. The management and specialized skill personnel are professionals in their individual fields of specialization. There are Plant Engineers, Research and Design Engineers, Quality Control Assurance Specialists, Administrative Staff, Procurement Officers, and Production Managers/Specialists.

The other personnel are factory hands who are mostly casuals or labourers and they are seasonal or permanent casuals. They are those who have no skills but are given in-service training to be able to handle facilities that they work with within the factory. At the time of field work in the company in 2013, the number of casual workers employed was about 1,400. Majority of the factory hands are recruited from Akuapem South Municipal Assembly with Nsawam as the capital and Ga West Municipal Assembly which is an adjoining local assembly in Greater Accra Region with Amasaman as capital. These are people who have worked with the company for about four years but they are still casual.

The challenge the factory encounters with this category of workers is that the company trained them for a period, lay them off, re-engage them and have to retrain. The Human Resource Officer of the Company said that the financial cost of the retraining is enormous, however, that option is comparatively lower than maintaining them as permanent staff even if the production is down sized during lean seasons.

Blue Skies Company Contact and Relationship with Mango Farmers

The Blue Skies Company operates an out-grower farming scheme to source for fruits. The contractual terms between Blue Skies and the suppliers or the out-growers are not a written contract but it is just mutual understanding. The Blue Skies Company deals with different categories of farmers.

The Company has individual farmers and FBOs who they transact business with. Group one are the individual farmers in the Blue Skies Company scheme who are known as traditional suppliers who began with the Company at its inception. They are trained, and their farms are certified by the factory. The second group of suppliers are the FBOs who deal with the Company as co-operative. The third group are large-scale farmers who are based on their economy of scale and professionalism in agribusiness deal directly with the

processing company. The Agronomist of the Company was emphatic that the Company does not operate its own farms but buys the fruits from the out-growers mostly in the Greater Accra, Volta, Eastern, Ashanti, and Brong-Ahafo Regions of Ghana.

The Agronomists are the first point of contact between the Company and the farmers. The core functions of the agronomist in the Company are that they scout or look for the raw materials for the company. They do farm audit to check for standards and some of these standards are Global Good Agricultural Practice (GAP), organic production standards that is Linking the Environment to Farming (LEF), and ethical requirement (child labour, forced labour, and labour habitation).

The Agronomists have a unique way of recruiting their farmers or suppliers. According to one of the Agronomist, they process Products (fresh cuts) on orders, therefore at the beginning of every production period when orders are received from their consumers in Europe, they make estimate of the expected volume of fruits to be harvested by their farmers. This then informs the Company as to the number of suppliers to contact in order to meet the demand. When the existing and regular suppliers are not able to meet the quantity required, they then go to potential farmers who are not the company's traditional suppliers.

The Agronomists give a lot of technical assistance to farmers. When the Agronomist assesses farmers and a farmer has the potential to supply the fruit but he/she is not global-GAP certified, the Company runs workshops for them and groups them for option 2 global good agricultural practices certification which is a group based certification. Some other technical assistance that the agronomists give to the farmers is that they perform practical farm education usually on how to measure chemicals for spray.

The Agronomists notify farmers on recommended agrochemicals, and give timely application of specific recommended agrochemicals. Again, they update the farmers with registered agrochemicals that have been approved from their customers (who are based in U.K.). The customers have recommended agrochemicals which they demand that farmers use on the fruits to be produced for them. Sometimes this agrochemical may or may not be on the approved list of agrochemicals published by The Environmental Protection Authority (EPA) Ghana, a situation which the Company's Agronomist said made the importers in the EU have stringent agrochemical regulation more rigorous than what Ghana's regulatory authorities do in ensuring food safety standards. These customized lists of agrochemicals from their importers/consumers are given to the company's suppliers of fruits to be used on the treatment of tree crops and fruits that would be exported.

In the statement, one of the agronomists of Blue Skies said:

The farmers are told that the company wants a specified quantity (volume) of fruits, quality specification is given to them, and schedules on which they are to supply the fruits are agreed on.

On how the company's agronomists monitor these terms in the agreement, the response given by one the agronomists was that:

We start with a visit to the farmers at a time that they begin with flower induction where we assess the flower to determine how well the mango season is likely to be. A second visit is paid to the farm to assess the fruit sets. The third visit is for maturity check and positive release (that is the period within which the farmer can then harvest and supply the fruits to the factory for processing.

The statement was corroborated by the Agribusiness Development Manager and the executives of the farmers.

The second Department in the Blue Skies Company which has contact with the farmers is the Procurement/Purchasing Division. The core function of this Department is to make sure that the quantum of fruit that it takes to complete the order placed by the company's

consumers is met. Negotiation of price is done at the pre-season production between the Agronomists and the farmers. Things that are considered in such agreement between the Agronomist and the farmers according to the Procurement Officer are Global GAP Certification which was done on behalf of the farmer, the cost of training programmes run for the farmer, and the price of the orders placed by the consumers in the Europe. Again, when computing the price of the fruits the factory takes cognizance of the costs of production, transportation, fruit quality and other overhead expenses. The study noticed that the price of a kilogram of mango varies according to the prices of the orders placed by the consumer, the abundance or scarcity of the commodity and overheard cost of production of the factory. The standard measure for the mango fruit is based on kilos delivered. It has been part of the sales agreement that it is the farmer who made the haulage and delivered the fruits to the factory. The Procurement Officer has stated that the purchase/procurement agreement is permanent; nonetheless, it is renewable every year.

There are processes that suppliers go through for their fruits to be accepted in the factory. The Quality Control Unit within the factory does quality assessment of the supplies. It is upon the satisfaction of the requirement set and agreed by the two parties that the fruits will be accepted. In all these stages the farmers are briefed and they give their consent. The tonnage of fruits which the company is able to purchase within a season depends on the order that the factory received from the consumers. In the Ghanaian market, the purchase is around a minimum of 1,200 metric tonnes to a maximum of 1,500 metric tonnes per season within 8 weeks that the Ghanaian season lasts. On weekly basis, approximately 200 tonnes are purchased. Throughout the existence of the Blue Skies Processing Factory the procurement capacity of the company is a minimum 1,200 metric tonnes to a maximum of 1,500 metric tonnes.

The major mango production communities which supply most of Blue Skies mango fruits according to the Procurement Officer are Somanya in Yilo Krobo, Kintampo North, Leklebi-Daffor in the mid-Volta Region and Akatsi/Sogakope in Southern Volta Region. Other countries from which the company gets fruits when Ghana's fruit season is over are Senegal, Brazil, South Africa and the fruits that are imported for production in Ghana are mainly mango. The official however said pineapple production is dwindling in Ghana and as a result, Togo and Cote d'Ivoire are the major sources of pineapple supply to Blue Skies. Ghana has two seasons; minor (January to February) and major (June to July). Each of these Ghanaian seasons last for 8 weeks. According to the procurement officer, Senegal's purchasing season lasts from August to September. Then October to December is the Brazilian season and March is South African season. Then from April to May, Cote d'Ivoire and Burkina Faso season come on board.

Exporting of Fresh-Cut Value-Added Product in Blue Skies

The Production Department of Blue Skies is in-charge of processing the company's orders for export. The main duty of the production unit is summed up in a statement the Officer In-Charge of the Unit made. He said:

We make sure that when the orders come from importers in Europe, the necessary raw materials are gathered and made available for export. We make provision for packaging materials needed for the export and the labour needed to meet the order. These are the key ingredients needed at the Processing Department for the order placed to be met.

The study noticed that most of Blue Skies orders come from Europe and they are as follows:

Table 8.3: Importers of Blue Skies produce and their country of origin

Country	Importers (Wholesalers/Retailers)
United kingdom	WAITROSE,SAINSBURY,ASDA
Italy	ESSELUNGA
France	MONOPRIX
Switzerland	HPW
Holland	ALBERT HEIJN

Source: Blue Skies Ghana office (14/8/2013) from Production Department.

The Value Addition or the fresh cuts start when the Production Department gathers mangoes as the key ingredient. They first make sure that it is ripe. This is because, the mangoes just come from the field as matured fruit and so the fruits are left to ripe naturally by leaving them in the sun for about two to three days. Thereafter the fruits are issued to the Production Unit for processing. The fruits are first sanitized with chemical mixed with water drawn from the Company's bore hole. During the sanitization process, the fruits stay in the chemical water for about 15 minutes at a regulated temperature. The fruits are taken out to the designated room for peeling. As soon as the peeling is done, cutting begins according to the customers' specification in terms of size, weight, and shape. The industrial machines quickly seal the fresh cut fruits into plastic packaging materials with a film to prevent tampering with the covering. Labelling is done by the staff after weighing the containers.

The next activity that is performed on the fresh cut fruit is chilling of the processed product which was heated in the chemical mixture before it was peeled. The temperature is reduced from 15^{oc} to about 10^{oc} or 5^{oc}. When the required temperature is attained, the products are sent to the airport for export on the very day and the next morning the consignment is at its destination collection points.

The consignment is exported by air and not by sea. It takes about three days to reach the customer. Because the Company does not want any degradation in the fresh-cut before they reach the final customer, it is important that the cool chain should not be broken from the Production Unit at the Factory; exit point at the airport, aeroplane, and at the destination. Careful steps are taken to make sure the temperature at each point remains the same at each level.

The processing capacity of the Company, according to the Production Manager, is such that in a day the factory could process about 50 metric tonnes of mango but that depends on the season. He was emphatic on the company's ability to meet the daily production capacity. He said "we achieve about 98-99 percent production capacity especially during the peak harvesting period of the major seasons".

The study found out that even though Blue Skies, a fresh fruit processing company, exports freshly cut mango produce to the European countries, circumstances compelled them to produce fruit juice for Ghanaian consumption. A Top Executive of the Company said "Blue Skies produces juice to the Ghanaian market as a last resort. It is only 0.1 percent that is crushed into juice because about 99.9 percent of the fresh cuts are exported".

He was further asked to explain what necessitated the production of the fruit juice since that is not the factory's core objective. In his explanation, he stated that:

It was an afterthought. The factory deviated from its major function because, the fresh cut we do is designed to meet a specific customer's need. These were instances where after cutting to the designed size, the peripheral cuts become a "waste" in the sense that it does not meet specification for it to be exported. Besides being a waste, we face the challenge of disposal. The factory also realized that the disposal of rejects becomes a cost to the factory. However, this 'waste' is edible. The first instance of the juice came when management decided to knock/crush the peripheral 'wastes' into juice for the staff. Having

realized that it tastes nice, Management decided to put it on the local market. This was started in about 2008.

The Head of Human Resource at the Blue Skies also gave her version on why the company diversified from fresh cut to the production of juice. She said:

The diversification started in December 2008 and gained momentum in 2009. In 2009 the volcanic ash phenomenon hit us hard. For about 7 days we could not export to our customers due to the restriction on air flight. The company lost a lot of revenue within this period and piled up a lot of cost. This phenomenon reminded us that there are repercussions in putting all of one's egg in one basket. Though the cost of the juice in the domestic market may be lower than the expected revenue from EU, it is better to lose moderately than absolutely. Indeed we depended on the juice produced for the local market to enable the payment of salaries and utilities within that crucial period.

It is evident from the two narratives, one from the production manager and the other from the human resource personnel that the company was not set up to produce for the Ghanaian market but they were compelled by circumstances. Blue Skies products are also sold on the Ghanaian local market. According to the Production Manager, Blue Skies produce only juice for the Ghanaian market as a last resort.

When commenting on the local consumption of the juice in Ghana, the Production Manager said “the market is growing but we observed that the middle class in Ghana are not so large and complex as it is in Europe”. He further explained that the company does not produce to target a particular class of consumers. The Company wishes that every individual can afford and patronize the fruit juice for its nutritional value for the human body.

The Manager, however, said:

In my village, not everybody can afford a bottle of Blue Skies fruits juice because the cost as of today is GH¢2.30. Somebody in my village needs only GH¢1.00 to prepare soup but cannot get it, where do you think his/her scale of preference will be skewed towards? Definitely, it would skew towards spending on food or soup that the entire family can benefit from and not a bottle of juice to quench only one person's thirst. The target is not for those

who live barely above \$1 a day. It is targeted at those whose income is within the range of GH¢800 to GH¢1000 and above.

Blue Skies' Contribution to the Ghanaian Economy

Blue Skies fresh fruit processing company made some contribution to the mango producing communities. First, Blue Skies Company performs some corporate social responsibility (CSR) projects and from 2009 to 2012 the company spent about £ 200,000 pound sterling on health and sanitation and school infrastructure development (www.wipo.net/ipadvantage/en/details/22/06/2014).

The Company is in partnership with Waitrose and other customers who set up foundation with funds generated from the sale of products that were supplied to them. The fund is operated with a small percentage of income/revenue realized from the sale of the produce. When substantial amount is raised, these bodies come to the country and build a social project for the production community as a reward for their contribution to the success and survival of their businesses in Europe.

The selection of the beneficiary communities for the CSR projects starts with the identification of the communities where most of the company's suppliers come from. Then a visit is paid to them to do need assessment by interacting with FBOs, chiefs, and other opinion leaders in the community. The selection criterion is based on the exigencies of the community's need whereby the company would provide the most pressing facilities that could ameliorate the living conditions of the farmers and their families and the social well being of the entire community.

Some of the facilities that the Company has so far provided through the CSR social projects are; one office complex (ICT and Service Centre) for Yilo Krobo Mango Grower Association in Somanya, Eastern Region. There is a completed model building for Akotia

Community Basic School near Juapong in the Volta Region. At Dobro where the processing factory is located the Company is building a multi-million school block for them. In Nsawam, the Company rehabilitated the Administrative Block for the Akuapem South Assembly and built a water closet (W.C) for Fanteakwa community. In Sekyikrom they renovated their Kindergarten (KG) and in Akraman they also renovated a six classroom primary building for them.

According to the Production Manager, the Blue Skies contribution to the mango industry is the Company's ability to process about 50% of raw fruits in the country which would otherwise go waste. It is his hope that when more orders come, the chunk of mango that Blue Skies can buy in Ghana will be above 50 percent.

Another contribution of Blue Skies is the farm training workshops that are organized for their farmers who supply fruits to the factory. The factory through its Management also goes in for loans from banks and gives them to farmers at a subsidized rate while the factory itself pays for the interest that accrues to the banks.

Fourth, the Company contributes towards ensuring food safety standards in Ghana by ascertaining the Minimal Residue Levels (MRL) of agrochemicals of the fruits from their farmers. The company does that through a schedule for every farmer that supplies fruits to them. During every month of the production period, the agronomists visit the farmers, take a sample of their fruits and send them to their customers in United Kingdom (UK) for compliance tests for the residue level by a United Kingdom accredited Scientific Laboratory called UKrest.

The fifth contribution is that the Company is able to create employment for about 1400 people within their catchment area. These employees enjoy welfare packages such as bus to and from work, canteen services, and medical services.

Challenges faced by Blue Skies Company

The Company has faced some challenges with some state regulatory agencies. According to the Agronomist of the Company there has not been proper collaboration between them and other agencies such as EPA and PPRSD.

The agronomists of Blue Skies Company stated that they see those agencies' officials as arm chair officials. This is because according to them, EPA does not check the adulteration of agro chemicals while PPRSD does not do regular check on plant pests. On the issue of collaboration with the Centre for Scientific and Industrial Research (CSIR), the Company's agronomists think they even rival them. They thought so because according to the Blue Skies staff, they were always a step ahead of CSIR. The Head of Agronomy Department said that:

Whatever our suppliers complain of, the company quickly sends the report to U.K Office and solution is recommended. CSIR only comes in to see what we are doing and report on the result we have achieved.

The second challenge the Company faces is the rate of rejection of fruits due to quality standards of Ghanaian mangoes. The rejection rate is dependent on the haulage and good agricultural practices at the farm gate. According to the Production Manager, sometimes the rejection is about 10 - 20 percent depending on the maturity of the fruits and the type of agrochemicals the farmers applied and pest control method used.

He cited an example that:

If out of GH¢1 billion consignment of mango fruits, 10 percent goes waste or rejected, the farmers will lose about GH¢100 million.

The solution he recommends is that the farmers should be encouraged to invest at least 10 percent or GH¢10 million to improve fruit quality standard to reduce the rejection rate.

According to the Production Manager, floor workers at the production unit never experienced factory accident. He explained that the workers are very professional about safety in the factory. He said:

No physical bodily injury was observed in the factory. The factory floor workers are provided with jackets that can protect them due to the cool nature of the room. There are cranes that lift heavy loads so we do not allow people to lift heavy objects.

The main challenge when it comes to factory work is how people stand up to work. The workers in the production floor stand up constantly for about 4 hours. The solution to the standing at the production floor is that the floor workers work for five days constant. Thereafter they stay off the work for two days. This, it is believed, will enable the worker recuperate from work fatigue. That is, workers work for five days and rest for 2 days. Therefore in summation, they only do physical work in the factory for at most 40 hours in a week.

The fourth challenge faced by the Company is the raw materials. The factory got pineapple for full production capacity from Ghana when we started operation. Currently, raw pineapple is in short supply and as a result pineapple is now bought from the Republic of Togo and Cote d' Ivoire. Blue Skies buys mangoes from Senegal, Burkina Faso, South Africa and Brazil. The cost of mango from Brazil and Burkina Faso is very high. Besides, by the time the cargo gets to Ghana about half of the consignment gets rotten. This is a drain on the factory and a contributing factor to the increase in exchange rate because once the company bought these fruits outside Ghana, foreign currencies are used. Also whenever the exchange rate is not favourable for the Ghana cedi, price of the end product is high.

The fifth challenge is the management of hydro-electric power in the wake of electricity power outages. The factory has to contend with this hydra-headed power outage. The study

found that the Company has three of its own thermal power generators. Each time power goes out the plants are turned on to power the processing equipment. The effect of this phenomenon is that even though turning on the plants enabled constant production to meet orders, it is very expensive to run on the generators. This is because the cost of fuel keeps rising and the cost of maintenance has added to the Company's overhead cost.

The Human Resource Department also faces some challenges. The foremost is the Labour Law. The law states that when an employer employs a person for more than six months, the employee should be made a permanent staff. However, according to the human resource officer, the nature of the company's processing is such that there are peak and lean seasons. Therefore the labourers are hired and when it is about five months they are laid off and re-employed after sometime to avoid employing them permanently. This practice is called "survival compliance innovative strategy" says the Human Resource Officer.

The Company adopts this strategy for two reasons. First, it is done to enable the Company remain in business, break-even and not to fall foul of the Ghanaian law. Second, the Company adopts this strategy because the customers in Europe consider unfair labour practices very seriously. It could lead to a boycott of the factory's products together with other implicit sanctions. The number of casuals employed is about 1,400 and that was why maintaining all as permanent was not financially sound for the company. These were people who worked with the company for about four years but they are still casual. The challenge the factory encounters with this category of people is that the Company trains them for a period, they are laid off, re-engage them and have to retrain again. The financial cost of retraining is enormous.

Almost all of the fresh fruit processors are sited at the coastal belt, to the neglect of the middle mango belt. The explanation given for this situation was that the location of the company was informed or predicated by certain factors.

First, the Company produces fresh cut fruits, transport them to the airport for them to be airlifted to Europe the same day so as to maintain the fruits' freshness. Second, the roads especially from Accra to the production zones in middle belt are not good.

To some extent they are too far from the airport therefore it will be difficult to meet flight schedules. Beside the road and airport infrastructure difficulties in those belts, transporting fresh cut fruits from the Brong-Ahafo and other production communities in the middle belt which are far from airport was bound to increase overhead cost of production which may erode the gains of the Processing Companies. To surmount these challenges the main solution lays in the up-grading of Kumasi Airport whereby consignments can be air lifted directly from the nearby production and processing communities. This is the major infrastructural hitch to the middle belt.

The data presented on Blue Skies Company indicated that the global market is highly competitive and therefore most Ghanaian smallholder mango farmers are not able to meet the size, colour, shape, and weight demanded by niche markets in E.U countries. Therefore the Ghanaian fruits cannot be exported in whole. However, the smallholder farmers are linked to the global market through fresh-cut value addition product from Blue Skies Company. As a consequence the small-scale farmers get regular market for their produce and get higher income than food crop producers.

Smallholder mango farmers recruited by the Blue Skies out-growers scheme enjoy some preferential treatment from the Company over others. This is because the company makes sure their farms are certified to globalGAP certification and premised on that such farmers'

fruits are first bought before turning to other suppliers. These same farmers benefit from modern scientific technological training, agrochemical supplies, and advance loan on schedule. Few among them are also given solar panels as a package for satisfying fair-trade criteria for mango production such as fair labour treatment, good environmental management, and organic production.

Blue Skies is staying away from producing mango juice into yoghurt or jam, though HPW is doing so. The major challenge is that under free zones processing conditions, companies could sell about 30 percent of their products on the domestic market. However, the tax component is a disincentive. Free Zone processed goods attract between 30 - 40 percent taxes while the 70 percent that is exported attracts only 15 percent tax.

It does not make economic sense to go into the Ghanaian market because, there is the tendency that fresh fruit products on the Ghanaian market may be expensive and above the reach of the majority of Ghanaians. Worse still, there is the likelihood that if care is not taken, production for the Ghanaian market may swell the overhead cost of production for the company and even erode the gains made from exporting the fresh cuts to customers in Europe. The government should make concession for a reduction of taxes on blue skies produce on the Ghanaian market to encourage the consumption of made in Ghana goods.

Blue Skies becomes an important development partner to the state. This is because the company employed over one thousand four hundred (1,400) Ghanaian workers. The company also constructed roads to link some farms to the trunk road in the production communities. It further helped some local assemblies to build schools and health and sanitation facilities for horticultural fruit crops producing communities as their CSR. It is important for the state to support the farmers through farmer education, infrastructure development [Road, agrochemical, agro equipment] and control diseases. Through this

support Ghanaian farmers can explore the two seasons production to their advantage, produce quality fruits which can meet the international global quality standard that will enable whole fruits to be exported to the global market.

Most companies producing alcoholic beverages and synthetic drinks are deemed to be suppressing information on the benefits of consuming fruits. The state should be interested in “coercing” her citizens into the consumption of fruits particularly mangoes. This is because, the major challenges impeding the localization of fresh fruit processing factories is the influx of pasteurized fruit juice and alcoholic drinks. If their influx is minimized and the consumption of locally produced fruits and juice are promoted, the farmers will have a wider market and the trickledown effect would be more income for the farmers.

CHAPTER NINE

9.0 THE POLITICAL ECONOMY OF MANGO INDUSTRY IN GHANA AND THEORETICAL ANALYSIS OF MAJOR FINDINGS

Introduction

Political economy according to Todaro and Smith (2011:7) is the study of social and institutional processes through which technocrats and political management influence the allotment of meagre productive resources. In this chapter, the political economy emphasises the use of political power to influence the economy of agricultural production in mango plantation. The focus is mainly on agricultural production policy and export promotion and agribusiness and agro-processing policies in the Fourth Republic of Ghana from 1992 to 2015.

9.1 Social Organization of Factors of Production

Land as means of production is an important resource which is held differently as a communal or private property. In this study the dominant land holding and ownership practices identified were, tenancy (lease and outright purchase), usufruct right and stool land tenure systems. Acquisition of land under any of these forms in the mango farming is negotiated for by the individual farmer without any state intervention. This sharply contrasts with Nkrumah's CPP administration policy where in 1960s the state appropriated land from traditional chiefs and family heads for several farmer organization/cooperatives to cultivate under the state farm concept (Frimpong-Ansah 1991; Killick 1978). Furthermore, in the oil palm production projects such as Benso Oil Palm Plantation (BOPP), Twifo Oil Palm Production Plantation (TOPP) and Ghana Oil Palm Development Corporation (GOODC) at Benso, Twifo Praso and Kede-Kwea respectively, majority of these lands were appropriated by the state for MNC to partner the government to develop oil palm production (Daddieh 1994).

What this study revealed is that even though the state has extricated itself from direct appropriation of land for production, there is state policy which regulates traditional political economy of land distribution. Even though Chiefs and family heads control access to and distribution of land at the peripheral communities, but at the state level, it is the government who regulates the authenticity of land owned by the traditional authorities through the award of land title deed and land title registration certificate. The laws undergirding this policy are Land Title Registration Law 1986 (PNDC L.152) and Land Title Registration 1986 (L.I. 1241). The rationale for these laws is to protect investment interest of the farmer or investor who may have invested in a land and later on be embroiled in land disputes and conflicts. However, there is contention between the state and traditional authorities on one hand and between the state and the farmers on the other. The traditional authorities in some areas contended that though the law on land title registration was passed several years ago, the Lands Commission failed to grant them their land title deed/certificate. This situation makes it difficult for some chiefs and elders to assure large-scale farmers about the authenticity and security of their land. On the part of the farmers, attempt to acquire land title registration certificate is thwarted by few state officials at the Survey Department and the Land Title Registry with the excuse that their documents or files are missing or lost.

The theoretical argument of dependent development as espoused by Evans (1977) was that the sustainable development of Brazil's export crop (coffee) was contingent on citizens going into large-scale plantation with guaranteed land security. Evidence from the study indicates that large-scale farming is on the ascendency. Due to attempts to remove bottlenecks in the award of title deed and land title registration certificate, the study has seen an emerging efficient land tenure system for the development of mango plantation. Furthermore, there is evidence of dependent development in the security of land for

production. At the community level, farmers depend on traditional landowners for cultivable lands. The traditional landowners also depend on the state government to authenticate their ownership of lands given for farming. Therefore while the farmer depends on the landowner for land, the landowner also depends on the state for authentication. This phenomenon shows that both landowners and farmers depend on the state to ensure security of land and investment in land.

Agriculture credit is an important component of production since money is needed for renting land, hiring labour at all stages of production, the purchase of inputs such as fertilizer, seedlings, agrochemicals, building of storage facilities on the farm and farm management practices. The study establishes that personal savings is the major source of funding in the establishment of mango farm. However, majority of mango farmers got support from the state and donor sources through the state's economic and agricultural policy as enshrined in the Food and Agriculture Sector Development Policy II. The state influenced inflow of agricultural credit to farmers with the institution of Export Development and Agriculture Investment Fund (EDAIF) through (Act 582) of 2000 to provide funding for agriculture production (MoFA 2009). Also through bilateral agreement, the state has sourced agricultural fund from development partners such as USAID and GIZ. The United State of America made money available to Ghana through the Millennium Development Account (MiDA) for the diversification of agricultural production. This fund was expended on the Ghanaian mango farmers in the study areas. Furthermore, the government of Germany in partnership with its agency (GIZ) made money available for farmers through its Market Oriented Agriculture Programme (MOAP). The government policy of funding agriculture from domestic and bilateral sources greatly influenced the successful implementation of recommended agronomic practices in mango production and this phenomenon has theoretical implication for

development. The MiDA fund extended to the farmers corresponds to core-periphery production dependent relation which linked farmers to the global economy through the state of Ghana and other developed states who support the production sector. The EDAIF, MiDA and GIZ's MOAP agricultural funds are disbursed through the formal banking system with the implicit intension of profit extraction from the farmers. As a result of this, mango farmers are also incorporated into the global monetary system and dependent on it.

There has been a marked transformation from the labour intensive agricultural production to the use of machine technology. It was contained in Ghana's Food and Agricultural Sector Development Policy-FASDEP (MoFA 2009) to encourage agricultural mechanization. The rationale is to reduce the drudgery of human labour and promote machine efficient productivity. Through the EDAIF and MiDA funding, majority of the farmers have used heavy earth moving machines such as bulldozer in clearing trees on their lands before ploughing them with tractors. Farmers also have pruning and spraying machines and equipment. The mechanization policy has aided the effective expansion of farm sizes and increased productivity. In theoretical terms, the agricultural machines and equipment are imported from the industrial countries with foreign currencies which sometimes lead to unavoidable capital flight. Though this dependency is exploitative in nature, mechanization in mango production engenders the use of technology and skills from developed countries which is a condition for dependent development as suggested by Evans (1977) and Gereffi & Evans (1981).

9.2 Analysis of the Organization of Mango Production

Production of mango for export is highly influenced and regulated by policies from both external and internal institutions and agencies. The external institutions and agencies are international plant protection council (IPPC), MNC retail and wholesale fruit processing companies such as Blue Skies, ITFC and HPW; AfriCert which certify farms compliance to good agricultural practices, Euro GAP, GIZ and USAID. The Ghanaian internal institutions are EPA, GSA, MoFA's affiliate department such as extension unit and PPRSD. The study revealed that the state recognized farmer based organizations (FBOs) as the easiest unit through which production information on food safety standard compliance and service provision can get to most dispersed and unorganized farmers in the communities. As a policy, district agricultural development officers were mandated to form FBOs for various crop producers in the districts.

In adherence to IPPC's policy of regulating seedlings and plant stock from recognized and certified agencies, development partners such as GIZ and USAID through African Cashew Initiative (AfriCert), Export Marketing and Quality Awareness Program (EMQAP) and Trade Investment Program for Competitive Export Economy (TIPCEE) programmes, have managed to train and certify nursery operators to provide seedlings from identified rootstock acceptable to the consuming public in the advanced countries. The IPPC regulations at the international level, has linked the Ghanaian economy and farmers into the global production chain.

Agrochemical sub-chain of mango production is regulated by the Environmental Protection Authority and some fresh fruit processing companies. These agencies publish, license and approve agrochemical usage and application on mango farms. This action was instituted to protect the health of the farmers, the ecosystem and the consumer. Again, the state has privatized and liberalized the importation and distribution of fertilizer and

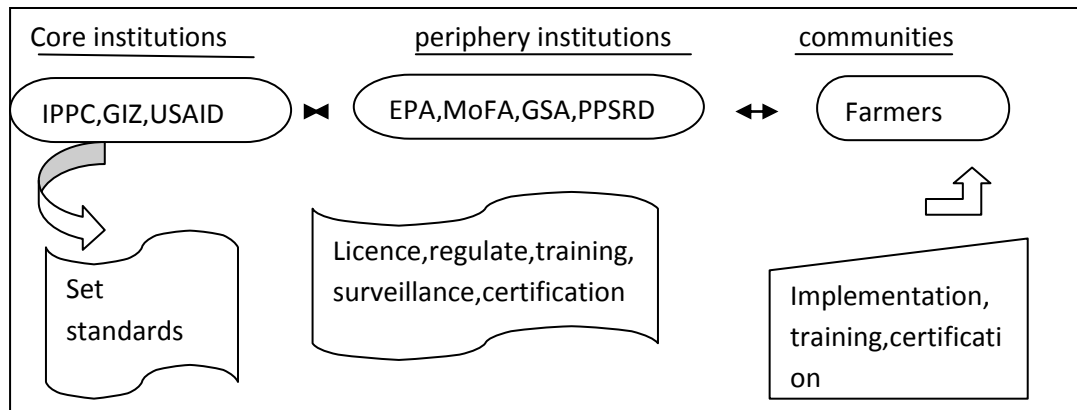
agrochemical in the country and for this reason fertilizer is available on the open market. However, farmers complain about the market price which differs from the price of government subsidized one which in many cases gets to the farmers very late. The study deduced that there is dependency embedded in the liberalized fertilizer trade policy because many of the fertilizer dealers are made up of a blend of foreigners and few Ghanaians and the fertilizer is not produced in Ghana but imported from developed countries.

Ghana's Food and Agriculture Sector Development Policy (FASDEP II) stated among other things that as part of trade and market liberalization, farmers can access farm services from multiple service sources (MoFA 2009). Premised on this policy, the state extension service officers at the district level team up with GIZ and USAID and fresh fruit processing companies officials to regularly train and build capacity for farmers in the right quantity and interval required for agrochemical application on the farms. The Plant Protection Regulatory Services Department (PPRSD) of MoFA in collaboration with the Tropical Crops Research Institute in Benin developed systemic and contact pesticides to depopulate pests and insects through the deployment of pheromone traps filled with fly attractant or para-pheromon.

As part of IPPC, Euro GAP and fresh fruits processing companies' production regulations, farmers are able to fulfil traceability requirement to ascertain specific farm from which a particular fruit was coming from. Traceability standards compliance certificate is issued by AfriCert whose headquarters is based in Kenya. AfriCert is accredited in USA and mandated to certify farms for Euro GAP standards compliance. Besides that, Ghana Standards Authority (GSA) conduct maximum residual level test on fruits to ascertain the residual levels of pesticides used on the plant and fruit. The different policies used in

regulating the production of mango as stated above have dependent and theoretical implication in core-peripheral relationship and this is summed up below.

Figure 9.1 Standards in Core-Peripheral Dependent Production Relationship



Source: Field note, 2013

Figure 9.1 indicates the standards that are set in the core states. At the national periphery, the set standards are regulated by policy through licensing, surveillance and monitoring. At the farmers' level, they are trained with the set standards and the mango farms certified. In theoretical terms, the farmers are controlled and regulated by the advanced countries through the state at the national level. Nonetheless, this cooperation in determining the type of seedling to use and the certification of production process between the core national government and the farmers at the periphery is a pointer to the fact that the production sector of the mango industry is developing.

9.3 Compliance with Food Safety Standards in Mango Production

The study revealed that compliance with food safety standards is important in the export of mango abroad and as result of this phenomenon state policy mandates four departments and agencies to regulate and monitor agrochemical use, pest and diseases control in production and test for maximum residue level of pesticides on fruits. Development

partners and some state agencies provide multi-services in technical and skills training capacity building for mango farmers; farm certification and issuance of food safety certificate for export. Implementation of provisions in Ghana's Food and Agriculture Sector Development Policy results in compliance with food safety standards in mango production and export i.e through the use of farmer-based organizations, chunk of smallholders were reached for collective action. There was bilateral and multilateral cooperation in enforcing compliance with international food safety standards. The study concludes that structurally, close proximity of food safety standards compliance bodies and injection of funds and input into production by fruit processing companies play a major role in compliance with food safety regulations. Economically, farmers are convinced that reward or revenue accruing from exporting mango is commensurate with the investment in food safety compliance. Social reasons for compliance are that farmer's sensitivity to their health and the health of consumers; farmers' high level of education; and farmers' experience in farming and willingness to achieve result. Consequently, developed countries have confidence in the safety of Ghana's mango and this has resulted in the increased value of mango export from Ghana, increased income for producers and more jobs and infrastructure development in the mango growing communities.

9.4 Analysis of the Marking of Mango

Mango is marketed using two strategic approaches which are supply-driven and demand-driven. The former or supply-driven approach is where mango farmers approach the buyer to negotiate for the supply of fruit. To do this effectively, USAID and GIZ trained Agro-Business Development and local marketing agents through Trade Investment Programme Competitive Export Economy (TIPCEE) and Market-Oriented Agriculture Programme (MOAP) respectively. Under the demand-driven approach, fresh fruit processing companies and exporters induced the farmers by advancing production inputs such as

fertilizer, insecticide, fungicide, offer technical assistance and trained the farmers after which they buy their fruit. These two approaches differ from the state marketing board system through which cocoa and shea nut are sold (Frimpong-Ansah 1991; Mikell 1989; Amoah 1988). The first step in marketing mango as the study revealed starts with the exporters and processing companies undertaking farm audit and yield analysis. This exercise determines the expected quantity of mango to be harvest by farmers in a season. This innovative practice in the mango industry did not exist with the traditional marketing board scheme.

Another difference which the study noticed between traditional export crops (cocoa, shea nut and oil palm) and the 'new crop' mango is the 'supply quota' given to the mango farmers in different districts be it an individual large-scale farmer or a collective (FBO). The 'supply quota' is a global phenomenon where fruit processing companies outsourced their supply from different regions in intra-country or out-country (McMichael 2012) and this non-egalitarian practice does not guarantee wholesale purchase of all fruits in Ghana as it used to be in cocoa, shea nut and oil palm industries.

The unit (kilo) price of mango is fixed for a season after yield assessment is completed. This practice is in accordance with what pertains in the cocoa, shea nut and oil palm industries. However, the price negotiation is not between the state/government and buying companies rather it is done between Agro-Business Development Managers and large-scale farmers on behalf of farmers and the fruit processing companies. The study deduced that the pre-season price which the farmers' representatives and the fruit processors and exporters agreed on is contingent on a pre-determined price existing in the global market. The pricing regime in theoretical terms falls within core-periphery dependent exchange relationship. The exchange relation is regulated and controlled by the brand-named retail and wholesale companies in the developed countries. They never paid a price that absolves

all the production expenditure incurred by farmers at the periphery. The theoretical difference between the state marketing board and private marketing of mango is that the state intervenes between the farmer and the importer and it is through this that the state generates revenue from the farmers by appropriating the difference between the international market price and the farm gate prices. In mango marketing scheme, such profit or revenue is appropriated by the MNC and their cohort in the advanced core states while at the periphery the profit/revenue is limitedly invested. This example typifies the capitalist mode of production where sometimes MNC and exporter do not own the means of production yet they exact profit from the toil of the farmers by their exploitative tendencies (Ake 1981). Therefore the state does not get the much needed exchange revenue from the export of mango directly as pertained under the State Marketing Boards.

Blue Skies plays an important role in the marketing section of the mango chain. The company exports fresh cut mango and other horticultural crops. During the 2013 mango season, Blue Skies Company purchased about 1040 metric tonnes of mango fruits from Yilo Krobo and Kintampo North farmers. The share of Blue Skies purchases accounted for about 50.2 percent of fruits sold to processors with the rest 49.7 percent going to ITFC (14.5%), HPW (28%) and Adena (7.2%). The estimated income earned from the sale is shown in table 9.1

Table 9.1 Estimated income earned by mango farmers

Description	Gh¢
Blue Skies	779,976
Other companies	772,524
Total from processor	1,552,500
Local market/fruit exporters	2,725,000
Grand Total	4,277,500

Source: field data 2013

Table 9.1 Shows Blue Skies' share of estimated income paid to farmers in the study areas in the 2013 mango season which stood at 18.2 percent. This figure would have increased if the company had not been operating a 'supply quota' system.

Under the marketing board scheme, quality control issues were handled by the quality control department, an agency within the board. However, in the mango sector, the quality control responsibility is undertaken by the Plant Protection Regulatory Services Department under Ministry of Food and Agriculture. It is PPRSD which issues certificate of inspection and wholesomeness of a horticultural crop before the export crop commodity is shipped and exported.

9.5 Contribution of Mango Production for Export to the Ghanaian Economy

Mango production has contributed to the economy of Ghana in terms of income, food safety compliance, employment, adoption of new technology, vibrant land market in the savannah areas, forward and backward linkages infrastructure, social mobility, economics of scale and corporate social responsibility.

Income: mango farmers enjoyed improved income because they are linked to the global market through the processing companies and therefore have high income compared to subsistence farming. This high income status is evident in their ability to honour financial obligations such as paying school fees of their children at levels of education from basic to university levels, funeral ceremonies and payment of hospital bills. The income earned are also expended on farm expansion by use of efficient technology such as machines, tractors and agrochemicals.

Food safety standards compliance: through multiple sources of service delivery and appropriate enactment, state agencies such as EPA, PPRSD, GSA and MoFA Extension officers teamed up with foreign institutions such as GIZ and USAID to provide technical skills and build capacity for the mango farmers in compliance with food safety standards. The food safety standards made mango from Ghana good, healthy and safe for human consumption.

Employment: at the production level, many young and middle age unskilled people in the rural production communities are employed within the labour force especially during the dry season where labour is released from the dry savannah zones in the north to middle and coastal savannah belts. In the fresh fruit processing companies too, several youths are employed as factory hands while few staff are employed as technical officials and engineers.

New technology: mango farmers have acquired new technology for the improvement of soil fertility and increase productivity by use of fertilizer and disease control technology. The farmers are equally able to ensure environmental protection and the maintenance of a balanced ecosystem as a result of the adoption of biological control of pest and insect population and tracking of the feeding habits of the pests and insect.

Vibrant land market: mango farming has created a vibrant land market in most savannah production areas. This led to the utilization of idle lands in the north, middle and coastal savannah production zone hitherto not suitable for the production of cocoa, coffee, rubber, shea tree for export crops into good use.

Forward and backward linkage: mango farming has afforded nursery operators to acquire new technology in seedling production for distribution to farmers. It has linked fertilizer and other private agrochemical dealers to the farmers at the up-stream of the mango industry. The industry has incorporated head porters who carry the fruits from the farm gate to market and collection centres. It has created an avenue for transport operators who cart the mango fruit to market centres. Within the mango production, agribusiness development managers and local market agents are part of the production chain who aided the farmers in finding market for their products.

Infrastructure: in the production communities, few feeder roads were constructed and existing ones rehabilitated with funds from the Millennium Challenge Account between 2004 and 2009. This went a long way to reduce time spent on roads between the farm and the market which influence the shelf life of the fruits and reduce cost of transportation and increase farm gate price of fruits. In addition, donor agencies and private companies were able to build pack-houses in the production communities. One such facility for joint use was built at Akorley in Yilo Krobo for mango growers in Somanya and adjoining districts such as Dangme West, Manya Krobo, and Asuogyaman Districts.

Social mobility: most of the mango farmers have moved from ascribed status of being subsistence farmers to achieved status of export crop farmers who have wealth regardless of their positions in their families and in the community and therefore increase in social mobility. Smallholder mango farmers through their enhanced income levels are able to

attend food fairs in South Africa, Germany and UK. About 38% of the mango farmers in the study had the chance of attending such trips. This opportunity is not extended to small-scale food crop farmers except the National Best Farmers in Ghana. Most of the mango farmers have also employed permanent labourers on their plantation estates and this made them transit from peasant farmer to high value crop farmer who becomes an employer or petit bourgeoisie.

Economy of scale: the institutionalization of FBO for mango producers as a policy measure has enhanced the ability of small-scale farmers. Small-scale farmers are able to team up with large-scale farmers to meet the supply of large volume of produce demanded of small-scale farmers in order to sell to the fruit processing companies.

Corporate social responsibility (CSR): as a reward to farmers in the production communities, some fresh fruit processing companies undertook corporate social responsibility. As part of CSR, some processing companies built ICT centres, water supply facilities, sanitation infrastructure and school block or building in some mango farming communities in the two districts.

9.6 Impact of Agricultural Policy on Economic Development in Ghana

According to Rodney a society develops economically when there is capacity for dealing with their environment (Rodney1972:2). The traditional meaning of economic development is a change in production structure and employment such that agricultural production will be de-emphasised giving rise to increasing production and employment in manufacturing and services industries (Todaro and Smith 2011:14). Todaro and Smith's perspective on traditional economic development focused on industrialization at the expense of agriculture and rural development with the hope that benefits accruing from industrialization will 'trickle down' to the ordinary person in the economy. However, the

failure of the 'trickle down' effect on income and employment has led to a change in the definition of the concept of economic development to focus on social equality, elimination of poverty, universal education, rising levels of living, etc. Todaro and Smith (2011) quoted Dudley Seers who stated that there is economic development when there is a decline in high levels of poverty, unemployment and inequality. The legitimate questions that the study strives to answer are: how does the policy affect the structure of production, poverty reduction, inequality, unemployment and human resources development?

Economic development as a concept in this study is in terms of farmers' capacity to use technology, ability to organize work, improvement in human resource and infrastructure development in the production communities. This section discusses the impact of agricultural policy on mango farmers' human resource capacity to adopt scientific technology in production through extension service delivery, equality in access to financial services, reduction in unemployment levels and income status of mango farmers. The section also focuses on the quantity and quality of infrastructure facility in the country.

Diversification of export crops: Ghana's agricultural policy on mango production led to renewed interest in the diversification of export crops production. This led to the search for suitable savannah lands for mango cultivation. Consequently, there has been an expansion of mango plantation in the coastal savannah, middle transitional forest zones and the northern savannah regions of Ghana. The diversification of export crops brought out the prominent role of traditional authorities (chiefs and head of families) in work organization particularly access to agricultural land. Traditional authorities were willing to rent out land to mango farmers and were instrumental in expansion of mango plantation. To instil confidence in farmers for large-scale plantation, the state has institutionalized land title registration to guarantee security and authenticity of lands that traditional authorities own. The land title registration act has emboldened the state to have full grip of land and

distribute them. This is a sign of a healthy relation between the state and traditional authorities who own the land.

Farmer education and multiple sources of service delivery: The study indicates that with the institution of proper structures like functional farmer organizations, mango farmers in the study communities are integrated into the global market. Through FBOs, production and marketing information reach the farmers. Furthermore, as a result of state policy on accessing multiple services delivery, the extension service officers from MoFA were supported by GIZ and USAID in the delivery of extension services to the farmers. The multiple sources service policy contained in the FASDEP (MoFA 2009) has actually enhanced the technical skill levels of mango farmers. This would not have been possible because the extension services unit of MoFA is financially constraint and short of the needed man power to undertake such service delivery to numerous dispersed and unorganized farmers.

Compliance with Food safety standards: Farmers are able to ensure food safety standards at production, harvesting and marketing segments of the mango value chain. At the production level, plant protection and environmental protection agencies regulate the proper use of agro-chemical in weed, pests and diseases control. Fruit processing companies in collaboration with FBOs farm audit clerks undertake farm audit on proper use of agrochemicals and disposal of agrochemical containers and faecal material. AfriCert and processing companies undertake inspection of farm dairy and farm certification for meeting European good agriculture practices standards. Ghana standards authority (GSA) also undertake maximal pesticides residual level test. It is this certification that enhances the health of mango from Ghana in the global market.

Agriculture Mechanization: the study deduced from the finding that mango farmers are able to use bulldozers and tractors in land clearing and preparation. This was possible because farmers through government assistance were able to access agricultural fund from EDAIF and USAID's Millennium challenge account and millennium development account.

Access to agriculture credit: agriculture credit was mobilized from two sources and these are domestic (EDAIF) and foreign development partners (GIZ and USAID). Fund from the donor sources are negotiated on bilateral level and channelled through programmes such as Trade Investment for Competitive Export Economy (TIPCEE) and Market Oriented Agriculture Programme. Again through bilateral agreement, Ghana government was able to access funding from the USA government's Millennium Challenge Account and it was on this basis that the state drew money from the millennium development account and linked it to the mango farmers. The availability of these sources of funds helped farmers increase the use of machines in production because they can lease machines and equipment from mechanization provision services leasing system.

Agricultural inputs market: farmers have improved access to inputs such as fertilizer and pesticides from both public and private market. The EPA has licensed private individuals who have established input shops in the districts and has strengthen its surveillance on them to prevent adulteration and faking of agrochemicals. As a result of this trade liberalization and private participation, there is abundant fertilizer and other agrochemical supply on the open market and this has solved the frequent shortage of inputs hitherto experienced in the cocoa and oil palm industry.

Citizen participation in marketing: in the marketing of mango, agribusiness development managers and local market agents have replaced the marketing board scheme which is a

state institution and a channel used in the exploitation of farmers. This shift in marketing export crop has encouraged citizens' participation in marketing.

Infrastructure development: in cocoa, oil palm and coffee economy, road and rail infrastructure development was skewed towards communities where export commodities are produced (Frimpong-Ansah 1991; Chalfin 2004). A typical example is rail and road construction in Ghana's cocoa, timber and sheanut producing communities and this study has observed a similar phenomenon in the mango sector. Few feeder roads are constructed in the mango producing communities to enhance easy haulage of mango fruits. Funds for these roads were provided by MiDA and Blue Skies Fruit Processing Company. As a result of government's agricultural policy, some important storage facilities have been built and others rehabilitated. In Yilo Krobo and Kintampo North, a modern state of the art packhouse was built in Yilo Krobo to solve fruit storage challenges of mango farmers in the Accra and Dangme savannah mango production zones. At Tema harbour, an abandoned warehouse was refurbished with the installation of cool chain storage facility through donor fund.

The study concludes that with state policy on agricultural development, there has been infrastructure development in the production areas. However, most of the infrastructure were built and rehabilitated by donor funds. This point suggested that there is donor partner influence in the development of the mango industry in Ghana. In theoretical terms, this is a case of dependent development.

9.7 Agro-Processing Industrialization and Foreign Direct Investment

The Ghana Investment Promotion Council (GIPC) Act (Act478) is a policy that made provision for tax exemption on agribusinesses which imported machines, equipment and spare parts purposely for food processing or value addition. Beside the GIPC Act 478, the

Free Zone Enterprise (FZE) Act (Act 504) provided the ground for licensing agro-processing Companies in Ghana to process domestic raw materials or allow the companies to import raw material from foreign sources for export or re-export without paying import tax on such transactions. The GIPC Act 478 and FZE Act 504 are consequential to the establishment of MNC like Blue Skies, ITFC and HPW which incorporated in 1997, 1999 and 2000 respectively under the tax exemption policy on imported processing plants, machines, equipment and spare parts. These companies are owned by entrepreneurs who are a British, Swiss and Dutch partnered by a Ghanaian. The availability of these processing companies and others are ready market for Ghanaian mangoes. In theoretical terms, the Ghanaian mango farmers depended on these MNCs which have their parent companies in the Metropolis. Though these companies do not own the means of production (land, capital and labour), yet through market exchange relation the mango farmers depend on them, therefore they largely control the mango market. Through the exchange relation the MNCs also make profit at the expense of the farmers.

In FZE Act 504, clause 13(2a), processing companies are allowed to import raw materials to augment the seasonal fall in supply in Ghana. It is for this reason that Blue Skies Company imports mango and other horticultural crops that it processes from Senegal, Togo, Burkina Faso, South Africa and Brazil. These transactions do not attract import tax because the policy insulates the company from doing so. The study deduced that the importers convert the Ghanaian cedi into foreign currency to enable them buy these products and consequently this transactions contributed to the depreciation of the Ghanaian cedi against the dollar and CFA which are the medium in which these transactions are done. However, despite the fact that these transactions cause currency depreciation the importers do not pay import tax to augment the depreciation.

Clause 23 (1) of FZE Act (Act 504) states that a minister of state can use legislative instrument to authorize or allow the sale of 30 percent of goods produced annually from FZEs in the national or domestic market and this will attract between 30-40 percent sales tax. The 70 percent of annual production is exported to the United Kingdom, Italy, France, Holland and Switzerland which are all developed countries and these transactions attract only 15 percent export tax. In practical terms, the mango farmers depend on the processors and consumers all in the core industrial countries for the development of the industry. Besides that, the 30 percent sales tax paid by the processors made them peg the domestic cost of 500ml processed juice at Gh¢ 2.30 which is equivalent to USD\$ 1.00 (exchange rate in March 2013). This situation makes the cost of the mango juice too high for the average Ghanaian to buy in order to increase their daily nutrition level. Furthermore, clause 28(1) of FZE Act 504 exempted owners of Free Zone Companies' from paying income tax on their profits or payment of withholding tax on dividends until after 10 years where income tax on profits shall not exceed 8 percent. Judging from the dates of incorporation of these processing companies, they are within the range of 13-16 years. However, the study indicates that it was between three and six years that the state begun collecting tax from the owners of the Free Zone Enterprises. This situation is dicey because where there is a change in ownership it is the state that lose income.

CHAPTER TEN

10.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

The study started with the identification of gaps in the diversification of export crops and the commercial production of mango for export. These gaps are the generational, political, social, and cultural practices associated with access to and mobilization of factors of production in the organization of production. The second gap is the contribution of the mango industry to the setting up of agro-processing industry. The third gap is on the organization of marketing of mango. To fill the vacuum in the literature on the mango industry, this study sets out in the political economy debate in exploring and ascertaining government policy decision on mango production and how the policy influences production, farmer integration and marketing of mango. The state policies that were focused on were Food and Agricultural Sector Development Policy (FASDEP), Ghana Investment Promotion Centre Act (Act 478) and Free Zone Enterprise Act (Act 504).

The objectives for the study were to examine the social organization of mango production in the study areas. Next is to investigate the integration of mango farmers into the export crops market. Further, to determine the marketing of mango fruits and value added products. It is also to assess the contribution of the mango industry to the Ghanaian economy and to assess Ghana's agricultural policies and its effects on economic development. The study used the dependency theory as a concept to discuss the development strategy that the state has adopted in marshalling economic resource for economic development of Ghana with particular reference to the tree crop export industry. The two strands of import substitution industrialization and export-oriented industrialization in the dependency debate was juxtaposed with Ghana's export crop development. A total of 43 respondents were sampled using the purposive sampling

technique. The instrument used for data gathering was the interview schedule. The summary of findings is based on the study objectives and the gaps identified in the literature on the mango industry in Ghana.

10.1 Summary

As a prelude to the summary, it is important to state that the structure of the mango industry in Ghana did not change significantly from the “structure dependence on transfer of capital and technology in the exploitation of resources” in developing countries on the developed countries engendered by colonialism linking Africa to European Metropolis (Ake 1981:185).

The diffusion of mango cultivation on a large-scale started in the 1960s under Nkrumah’s government. Cultivars were imported from Florida and Miami in the United States of America (USA) and tried at several Agricultural Experimental Stations such as Somanya, Kwadaso, Ejura, Kpeve and Kintampo in Ghana. The act of importing the mango variety needed for export production from America is indicative that America has the superior variety hence Ghana has to depend on America for the hybrid high yielding variety. The reliance on America sources for the supply of mango cultivars has linked Ghanaian mango production to the economy of America in a dependent production relation. The older mango production areas in Ghana are along the savannah land mass areas of Accra plains stretching to the east of Akuapem Hills to Dangme West and Krobo areas. The new mango production areas are in the transitional agro-ecological zones of the Volta, Ashanti and the Brong-Ahafo Regions. The emerging mango hubs are the Northern Savannah Zone that encompasses the three Northern Regions of Ghana.

Access to Factors of Production and Practices Associated with their Acquisition

There are three main land tenure practices which are tenancy (leasehold and outright purchase), usufruct right in land and stool land (communal land). The state never played any significant role in the procurement of land for farmers. Members of the FBOs played peripheral role in land acquisition because the Association directs interested land-seekers to landlords for the necessary negotiations. Governments' non-intervention in land acquisition for large-scale block farming made the concept fail in the Kintampo North study area. The project failed because farmers could not agree on having their farms scattered since they already had existing mango farms established on their privately acquired lands. The study has come out with the fact that whereas under Nkrumah and Acheampong administration from 1960s to 1975, the governments have appropriated land for farmers to increase production and export of industrial crops such as oil palm, sugar cane and horticultural crops thereby incorporating small-scale farmers into land dependent production relation. In the mango production sector, this is not the case. However, the only land dependent production relation farmers have with the state is the provision of security in authentication of ownership of land through the issuance of land title deed and land title registration certificate to traditional chiefs and elders and prospective farmers particularly large-scale farmers.

On access to agricultural credit, farmers are able to access agricultural credit from formal sources which are Ghanaian state funds and donor sources such as Millennium Development Account (MiDA), International Fund for Agricultural Development (IFAD), and Adventist Development and Relief Agency (ADRA). International geo-political diplomacy played out in Ghana's mango industry where GIZ and USAID concentrated their support. The presence of ADRA and TIPCEE programmes supported by USAID from America were conspicuous in the Yilo Krobo production community, whiles GIZ's

MOAP activities sponsored by the Republic of Germany were felt more in Kintampo North. The study shows that through Act 582 of 2000, government was able to accumulate funds for distribution to farmers. Access to the fund was made easy for the farmers by educating them on loan application procedure and processes. Furthermore, access to EDAIF, MiDA and GIZ funds are made easy by the removal of collateral requirement and rather substituted it with group lending or loan where the responsibility of loan repayment is distributed among the farmers who constituted the group members. Because of the financial commitment of the USAID and GIZ into the mango production, these agencies were physically present at the Ministry of Food and Agriculture and the production communities. Access to these funds enabled farmers to buy inputs, hire labour and machinery for production, building of storage facilities and become effective in farm management. By this evidence, government has fulfilled its policy creating an enabling financial environment for farmers to have access to agricultural credit.

Second is the channel of service delivery. In the study communities of Yilo Krobo and Kintampo North, there were mango farmers' associations. These associations were formed in 2003 and 2005 in Yilo Krobo and Kintampo North, respectively. The idea of forming farmer-based organization was muted by the District Agricultural Development Officers and complemented by donor agencies like GIZ and USAID. The major activities which integrated the mango farmers into the export market were farmer education, adherence to the international plant protection regulation on food safety.

Coordination between State and Development Partners in Service Delivery

The third factor focused on coordination between state and development partners in service delivery to the mango farmers. The study has found out that there is coordination between state agencies and development partner agencies at the national, regional and district

levels. The Ministry of Food and Agriculture has created a desk for USAID and GIZ officials on specific projects/programmes at the national, regional and district offices. The coordination has harmonized the objectives and priority of the donor partners with that of the state. As a result of the coordination between the state agencies and donor partners, farmers are able to access extension and financial services from multiple services delivery sources such as from MoFA, donor partners and fruit processing companies. Through coordination, the cost of farm certification was borne by USAID and fruit processing companies. It must be stated that the cost of farm certification is far above the reach of an individual small-scale farmer but this has been waived by donor partners and fresh fruit processing companies.

In the training of farmers on good agricultural practices, the district agriculture extension officers, agriculture officers from donor partner agencies and agronomists from fresh fruit processing companies plan training and exhibition schedules and execute them together.

Diseases detection and control is undertaken as a joint exercise by PPRSD, fresh fruit processing companies, donor partners and tropical crops research institute based in Benin. These activities are ample evidence attesting to the fact that there is effective coordination between the state and development partner agencies in the development of the mango industry. The cumulative effects of these co-ordinations are several instances of service delivery from multiple sources resulting in the certification of mango farms of farmers as a sign of meeting international food safety standards compliance.

Structure of Marketing

The fourth factor is the marketing structure. There is no direct state intervention in pricing, marketing and export of mango fruits and value-added products. However, there are laid down structures that regulate the conduct of marketing mango as a business. The structure

is made up of GIZ trained Agro-Business Development Managers (ADM) in each mango growing local assembly area, marketing committee in each FBOs, and Procurement Officers from exporters and processors. Blue Skies Fruit Processing Company practices social stratification in her fruit procurement regime. The company has three types of clientele, traditional suppliers, FBOs as a co-operative, and large-scale farmer as an entity.

Impact of GIPC Act (Act 478) and FZE Act (Act 504)

The fifth factor is the impact of Act (478) GIPC Act and FZE Act (Act 504) on Agribusiness and Agro-processing industrialization. The fruit processing companies are operating under the Free Zone export processing policy i.e. the Free Zone Act, 1995 (Act 504) and Ghana's Investment Promotion Centre Act 1994 (Act 478) . Some Fruit Processing Companies in Ghana are Blue Skies owned by a British Company, Hans Peter Werder (HPW) owned by a Swiss Company and ITFC owned by a Ghanaian and Dutch Companies

The impact of these two policies is mixed. These policies engendered the establishment or incorporation of export-oriented industries (EOI) in the country. Its tax exempt on equipment has enabled the importation of agro-processing machines and spare parts for the processing of fresh fruits which was a deviation from the wholesale and raw exportation of traditional export crops. Also the tax exempt on imported raw materials meant for processing has enabled constant supply of raw materials for the processing companies and this has addressed the seasonal shortage of fruit. The EOIs serve as large and guaranteed market for Ghanaian mango. The EOIs also employ a large number of Ghanaians who perform different types of jobs ranging from clerical, administrative jobs as well as highly specialized technical works such as production and agronomic duties in the fruit processing factories/companies. However, the long period of tax exemptions in the opinion

of the study is likely to limit the state ability to mobilize more revenue from Free Zone processing enclaves.

Contribution of mango production to the economy of Ghana

The mango farmers were of the view that even though their concentration is on mango cultivation, transfer of ideas from extension service, income earned from the mango farm, and farm management skills, and technology learnt add up to improve their subsistence farming and good management of the production ecology than when they were producing food crops only. Mango farmers live above the extreme poverty level and they earn more than a dollar a day (USD\$ 1=Ghc 2.30) by the estimation of what income a hectare of mango farm could generate. In nominal terms the farmer would earn Gh¢ 19.52 as daily minimum income and monthly income of Gh¢593.75. The farmers were of the view that they are able to pay school fees for their wards at all level of education, honour financial obligation on traditional matters, expand their farm size and use modern technology in farming. In the production communities, many unemployed and unskilled youths are engaged in clearing and maintenance, fruit harvesting and marketing thereby earning income. Mango production has forward and backward linkages where agrochemical dealers and transporters are linked at both production and marketing segment of the mango value chain. Most mango farmers have experienced social mobility. Thus they moved from subsistence crop farming to export crop farming, they have attended food fairs in South Africa, Germany and United Kingdom and they have become local bourgeoisies employing farm hands.

Impact of Mango Production Policy on Economic Development

The impact of Ghana's agriculture policy on economic development is the successful diversification of export crops from mainly traditional export crops production such as

cocoa, oil palm and shea nut to horticultural crops such as mango, pineapple, pawpaw and vegetables. The policy has created the enabling environment for farmers to access farming services such as farmer education, financial and input services from multiple sources which are from internal state agencies and development partners. The policy has enabled citizens' participation in direct marketing of mango fruits as agribusiness development managers served as the inter-face between fruit processing companies, exporters and farmers. By that whatever profit is earned is retained within the FBOs. Another impact is the building of modern storage infrastructure, building of ICT centre and office complex and rehabilitation of roads in the production communities as well as refurbishment of cool storage facility in Tema Harbour.

10.2 Conclusion

The study indicated that there is only one farmer who is a youth. There is no special incentive or provision to entice the youth into mango production. As a result, the government's youth in agriculture policy has failed in the two study areas.

All the mango farmers have had formal education. However, majority of them had secondary education. This is an indication that the production sector of the industry is dominated by people with secondary level education and not by illiterates and highly educated elite class.

There is agitation between chiefs and farmers against the state institutions responsible for land title registration. The agitation is about delays and disappearances of documents in the process of acquisition of land title certificate from the Land Title Registry. This is as result of role over-lap between the Survey Department, Lands Commission and Land Title Registry.

Frimpong-Ansah (1991) stated that Nkrumah's CPP-led administration's agricultural policy was targeted at large-scale, state and large-scale private farming. This policy neglected small-scale individual farmers. In this study, it was revealed that through farmer-based organizations, production incentives were extended to both large-scale and small-scale farmers. This led to the development of the mango industry.

The study indicates that large amounts of money or agricultural credit that farmers accessed came from donor funds than it was from state funds. Again, the study shows that donor-funded mango crop production went largely to Yilo Krobo mango farmers while it was state funds that went to mango farmers in Kintampo North.

Kay (1992) stated that in the 1930s-1940s, attempt to diversify production export crops was unsuccessful. He attributed this situation to the concentration of labour in the cocoa industry due to high wages paid to labourers thereby creating labour shortage. There was no shortage of labour. This is so because mango production in the savannah zones is an opportunity for employment. This has contributed to the take-off of the diversification into mango production.

Kay (1992) suggested that government policy reaction to the swollen shoot cocoa disease was not scientific. Government then asked farmers to cut down affected cocoa trees since no scientific method of disease control were found for the disease. In this study, it came to light that PPRSD in collaboration with the Tropical Crops Research Institution in Benin helped to fight fruit fly and other mango diseases.

There is erratic supply of government subsidized fertilizer to the farmers. The situation makes the cost of fertilizer on the open market in Kintampo North higher than in Yilo Krobo due to their proximity to the sea port and capital, Accra where the production and

packaging factories are located. This phenomenon has the tendency to increase the cost of food crops production and a reduction in the use of fertilizer to increase yield.

There is no marked difference between small-scale and large-scale land holdings of usufruct, lease and purchases under cultivation. Only very few small-scale farmers use machines in land preparation. Majority of the small-scale farmers benefited from the EDIAF credit facility. Also, all the small-scale farmers have employed only casual or seasonal labourers.

The study indicates that only large-scale farmers are beneficiaries of MiDA funds. Two-thirds of them use machines in land preparation. Finally, they have employed both casual/seasonal and permanent labourers on their farms.

The institutions involved in the integration of farmers are from both governmental and donor institutions and agencies. These institutions and agencies are GSA, PPRSD, and EPA from Ghana government. AfriCert, IPPC and Blue Skies are from donor or development partner sources. They made sure that Ghanaian farmers comply with food safety standards at the production, harvest and marketing levels of the mango value chain.

There is a marketing structure in the mango industry made up of Agro-Business Development Manager(ADM) at the District or Regional and special marketing agents at the local production levels. They act like cocoa buying agents under the marketing boards system. Majority of the mango fruits are sold to the processing companies. This is followed by the local markets in the big cities of Ghana. The main export market for Ghana's mango fruit is Lebanon. Access to this market was under a special bilateral agreement between Ghana government and the government of Peoples' Republic of Lebanon.

Mango farmers have an increase in income as a result of mixed cropping. They are able to educate their children, build decent houses and increase food security.

The flexibility of government policies on investment agribusiness and agro-processing led to the influx of FDI. This is manifested in the proliferation of fruit processing companies in the country who have incorporated under the Free Zone Enterprise Act (Act 504), GIPC Act (Act 478) and FASDEP.

Within the study period, blue skies company declared a profit of £ 15 millions from Ghana its operation and spent about £200,000 on development projects in mango producing communities.

In cocoa production it was reported that quality cocoa beans are not commensurate with special bonus (Kay 1992). In this study, premium prices are paid by the Fair Trade Company through the marketing agents to farmers who adhere to fair trade production practice.

In the cocoa and shea nut industries, tax was imposed on farmers as government policy for development purposes (Frimpong-Ansah 1991). In the mango industry, there was no imposition of government tax on mango farmers except on processing factories who have incorporated after ten (10) years or who want to sell above 30% of their products in the country since they registered under the Free Zone Enterprise Act (Act 504).

During the Acheampong-led-government, Special Agricultural Scheme, MNCs invested in oil palm plantation in Ghana (Daddieh 1994). This study concludes that due to government policies such as the Food and Agricultural Sector Development Policy, Free Zone Enterprise Act (Act 504) and Ghana Investment Promotion Council Act (Act 478), donor partners have invested in the mango industry.

Chalfin (2004) stated that government's adoption of Structure Adjustment Programme (SAP), trade in shea became a battle ground between the state who wanted her grip on the industry and International Financial Institutions (IFI) who proposed privatization of the industry. This study finds out that there was no confrontation between the state and the private sector (donor partners and investors). They have played complementary roles in the development of the mango industry. This is so because donors invested in farmer education while the processors invested in the fruit processing leading to the development of the industry.

The conclusion on the social organization of farming is that the onus lies on the farmer to acquire land through individual negotiation. However, these lands were acquired through social network because majority of those whose land tenure is leasehold or outright purchase got to know about the availability of land through acquaintances. Again on the security of land and investment, the findings pointed to one thing, that is, the higher the authority that granted either the leasehold or outright purchase the more secure the investment on it.

The cultivation of permanent tree crops have some advantages such as increase in food crop productivity and maintenance of soil fertility (Anaman 1988:52). This study affirms the finding of Anaman (1988) that the farmers have a head start by being food self-sufficient through the cultivation of food crops within the mango tree crop.

Asamoah (2001a) suggested that one of the general characteristics of production in Africa is that there is no distinction between the production unit and the consumption unit. This current study found out that there has been a drastic change in labour organization for production. The researcher concludes that from the findings there is social differentiation

between consumption and production units of labour because all the mango farmers have employed wage labourers (casual or permanent) on their farms.

Farm technology is inextricable from industrialization (Hoogvelt 1997:31). The study concludes that as a result of the high cost of farm machines such as tractors and bulldozers together with their accessories, majority of the farmers are unable to use farm machines in land preparation that will level the land surface for subsequent use of motorized sprayers and sprinklers for agrochemical applications on the crops and this typifies the high technology rent that is impeding development in the mango industry.

The middle class in the country have not yet developed a high taste for consuming mango fruits and products because only 0.1% of valued added mango products are sold in the country whose price is within the reach of this class of people.

Population and market size are important component of industrialization. According to Hoogvelt (1997), ISI will not work if the internal market is restricted or is not large enough to absorb the manufactured goods and also where the citizens of the producing communities are indigenes in blood and colour but have taste for imported commodities from industrialized countries, then saving, investment, industrialization, and development will be retarded in the periphery (Hoogvelt 1997:32). The Production Manager of Blue Skies Fruit Processing Company stated that the fresh cut fruits that are exported by the Company are targeted at the middle class in Europe. However, in Ghana, the middle class is insignificant hence the Ghanaian market for Blue Skies juice is limited because a large proportion of the population live barely on one dollar a day and therefore cannot afford 500 milligram of fruit juice which cost one dollar (\$ 1) a day.

The main challenge in getting quality standards of Ghana mango is that hypothetically out of GH¢1 billion consignment of mango fruits supplied to processing companies, 10

percent went waste or were rejected, implying that the farmers will lose about GH¢100 million. The solution to this phenomena is that the mango farmers are to be encouraged to invest at least GH¢10 million in their farms to improve fruit quality standard to reduce the rejection rate.

The study has answered the question why development partners and donors should support the integration of mango farmers into the global market by establishing that it was a social and economic obligation to protect the health and lives of their citizens who depend on these fruit commodities. Thinking developmentally, it is good they help the Ghanaian mango farmers develop the industry within the dependent development discourse. However, the study concludes that the intended consequence is that it is only through firms with their origins in the industrial countries that can export fresh fruit commodities from developing countries to Europe and this is evident in the composition of the fresh fruit processing companies in Ghana such as Blue Skies, HPW and ITFC which are all from European root or origin.

The non-Traditional Export Crops, particularly mango tree crop and other horticultural export crops, have contributed significantly to the improvement of the living standard of the farmers. This statement is premised on the assessment of the farmers who said that as a result of the mango farm they are able to pay the school fees for their, pay for their hospital bills, buy prestigious local and foreign clothes. They claimed that they are also able to put up modern buildings with cement blocks and roof them with aluminium roofing sheets, and they are able to meet some social and cultural obligations.

Mango farmers have acknowledged the importance of mango growers/farmer organization as a unique opportunity for integration into the global commodity chain. Through the association the mango farmers have benefited from extension services as a group. They are

also able to find market for their goods and meet production volumes required from the association. However, the attitudes of some of the mango farmers as deduced from the study was a tool for their self destruction because they are eager to form and belong to FBOs and Associations for the benefits enjoyed such as getting market for their fruits, learning and applying new technologies and receiving group farm inputs, equipment, and credits. However, where there is an obligation for money to be contributed for the organization of farm services, some refuse. The tendency is that when donor funds that were used to fund some of the training programmes and supply of inputs dry up, their production is very likely to decline.

The study ascertained that mango farmers in Ghana are well integrated into the global export market because the farmers have enough information on food safety and sanitation regulations of the destination markets and are complying with those regulations. This feat was achieved as a result of the vigilance of the state agencies such as GSA, PPRSD, and EPA who are responsible for ensuring food safety standards in Ghana.

Along the commodity and value chains, there are food safety regulations and as a result, various bodies and institutions have been given permission to perform certain functions to ensure the implementation of the food safety standards. The IPPC, brand-named retailers and wholesalers perform the legislative functions by making laws that regulate the importation and entry of plant products into any country in the EU.

Further, in the production communities, lead agencies of the importers in the core countries perform the executive functions in the value chain. The lead firms and agencies of the parent importers in the core states are the fresh fruit processing companies such as Blue Skies, HPW, and ITFC together with development partner agencies such as USAID, ADRA, and GIZ with their bases in Ghana make sure that they visit farmers in their farms

to ensure that the production process of the mango conforms to global good agricultural practices (GAP). The processes through which GIZ and USAID pass to implement these duties are MOAP and TIPCEE Project. The judicial function within the value chain is farm certification to global-GAP certification.

In the mango industry, the function is performed by the processing companies in Ghana and AfriCert which is based in Kenya and the cost of the certificate is very high but the small-scale farmers have to comply with the process. Locally, GSA, EPA, and PPRSD are state institutions charged to implement the executive production functions in the horticultural industry. However, these institutions are under-resourced and cannot perform satisfactorily. The phenomena stated above are an indication that the development of Ghanaian mango industry is dependent on the core industrialists and indeed, the mango industry in Ghana is gradually taking-off. Furthermore, the core industrialists and the lead companies' benefits more from the surplus value (profit) generated from the mango industry than the farmers and the mango FBOs. This is because in 2010, Blue Skies' operations in Ghana declared a profit of £ 15.4 million pound sterling.

One of the major reasons why industrialists are relocating to developing countries for processing of raw materials according to Hoogvelt (1997) is high wage in the advanced countries and the presence of vibrant trade unions and civil society organizations. Hoogvelt (1997) argues that the demand for high wages made production and the produce expensive in the core industrial countries hence the MNC relocate to sources of raw materials where they buy their material cheaply and employ cheap unskilled labour in order to make good profit and remain in business. Again, Hoogvelt (1997) advanced another argument that if prices of commodities are low and overhead cost of production is high, profit will be low and investment will be low as well and this will lead to underdevelopment.

The wage and production cost at the farm level according the farmers are high, however, the buyers are intransigent in demanding that the prices of the mango fruits be commensurate with the expenditure made on the crops. This entrenched position of the buyers arose because they controlled the export market and have created the brand-name for Ghana fruits such that the importing countries will not give credence to any company which exports fruits outside the lead companies of European origin. The study concludes that through the lead firms of European origin in Ghana, prices of horticultural commodities are kept low and they are making profit to sustain their investment.

In the manufacturing and processing levels of the commodity/value chain, energy supply plays an important role in investors' decision making in investment, industrialization and development (Hoogvelt 1997). In the dependent development process in Brazil, Mexico, and some other countries in Asia, cost of fuel energy and electricity was low and sometimes subsidized. This gesture enticed industries and industrialists to invest in the manufacturing and processing of consumer goods through industrialization. The Officers in the Human Resource Development and Production Departments of Blue Skies Fresh Fruit Processing Company lamented about the unreliable energy supply from the National Electricity grid such as Volta River Authority (VRA) and Electricity Company of Ghana (ECG).

To maintain a study production schedule, the company has bought electricity generation plants at a high cost to the company. Furthermore the high costs of fuel makes running of the plant/generator expensive and this eventually adds to the overhead cost of production of the Company. The study concludes that as a result of the high overhead cost of production attributable to fuel factor and the rising exchange rate of the Ghana cedi to the dollar, the domestic price of value added fruit produce in Ghana is above the reach of the ordinary Ghanaian therefore the government must improve upon the energy supply to

reduce the incidence of souring overhead cost which will be translated into the reduction of the price of juice and value added horticultural produce.

Theoretically, under the traditional tree crops export industry, ISI and EOI were encouraged through a dependent development strategy. For example Cocoa Processing Company was set up to process cocoa beans for export and domestic consumption (Awua 2004). Oil palm fruits processed into palm oil at BOPP and TOPP and the products are supplied to Lever Brothers Limited and Nestle Company Ghana Limited to manufacture soap, and other confessionalaries (Daddieh 2004). Rubber plantation in the Western Region of Ghana attracted the setting up of Firestone Tire Company to manufacture lorry tyres and rubber products (Dzorgbo 2001). It was noted however, that these industries were established as state and private foreign joint partnership ventures. The situation in the mango industry as the study revealed shows that the EOI, example Blue Skies and HPW, which were set up in the mango industry were solely foreign owned except ITFC which is a joint venture between a Ghanaian private citizen and private foreign owner.

This study suggests that dependent development in Ghana's agribusiness and agro-industrialization failed to take-off from the colonial era to the 1990s. Some related factors which have accounted for the failure are ideological differences in economies policies and frequent change of governments; state control of trade in export crops; small-scale production of industrial crops which cannot support economy of scale during times of boom, and over taxation of export crops by the state.

It was deduced from the study that Ghanaian farmers never had large-scale plantations which would enable an appreciable number of the citizens to benefit from economies of scale as was the case of Brazil. In addition to that export of crops and import of production

goods were controlled by MNC such as UAC and Cadbury Brothers Company with the citizens' participation being very insignificant.

Agro-processing companies have registered with the Ghana Free Zone Board and the conspicuous ones are Blue Skies Incorporated in 1998 and prepare fresh-cut fruit mainly pineapple and mangoes, package, and export them to the European market. The second company is Pinora Company established as German-Ghanaian joint venture in 2005 as Free Zone Company and it processes fruits into frozen juice concentrate for export. Another company is Gold Coast Fruits Company a Ghanaian–German joint investment and was incorporated as a Free Zone Company. These agribusinesses have set in motion agro-industrialization in the Ghanaian horticultural industry and this marked the beginning of dependent development in the mango industry at the micro level of Ghana's political economy.

There are socio-cultural issues in the organization of factors of production. Ansa Asamoah (2001a) argues that with the cultivation of new crops introduced by the Europeans who had contact with Africa and other developing countries, the income of peasants have increased and their standard of living improved qualitatively and quantitatively (Asamoah 2001a:54). He further contended that peasants who were involved in the cultivation of export crops did so as private business. Even though the farm is a private venture, the land on which the farm was established remains a communal property and these private farm owners never paid monies for that communal property-land (Asamoah 2001a:64).

This current study is of the view that Asamoah's (2001a) argument is true to some extent particularly in a patrilineal society like in Yilo Krobo where similar situation prevails, where land is owned by the individual families and their heirs but the situation varies in Kintampo North which is a matrilineal society as this study found out. The traditional political economy in Kintampo North is such that the land is vested in the stool of the

Paramount Chief and therefore mango farmers paid an unspecified amount of monies annually to the paramount stool/chief as contribution towards development projects or for the annual festival celebration of the people of Nkoranza. The study deduced that the Paramount Chiefs of Nkoranza Traditional Area have envisaged the potentials of the mango farming as a source of revenue to the traditional council and the citizens that is why he is willing to lease the land to prospective mango farmers.

The policy implications of the study are that continuity in state policy despite changes in government and ideologies make it possible for foreign industrialists to have confidence in investing in the fresh fruit processing sector as part of foreign direct investment in the country.

Another implication is that mango production has added to the portfolio of crops that created social stratification in the savannah agro-ecological zones. A liberalised system of marketing does not favour farmers in remote rural communities compared to the egalitarian system of marketing found in cocoa and shea nut sectors in Ghana.

10.3 Recommendations

Farmers who lease or purchased land for mango cultivation encounter challenges in securing their investment in land due to the difficulty in the acquisition of land title registration certificate. Sometimes indenture signed by chiefs and submitted by farmers to the land title registry get lost or missing. This situation arose as a result of the centralised operation of land title registry, land commission and survey department. On this basis, government should decentralize the operations of the Land Title Registry, Lands Commission and Survey Department to the District and Municipal Assemblies and appoint supervisors to monitor and evaluate their effectiveness in dealing with the public who want to invest into large-scale mango farming.

The study recommend that farmers should form a vibrant national mango FBOs as a pressure group which can pressurize government to endeavour to honour the supply of subsidized fertilizer regularly to farmers to ensure there is continued use of fertilizer in food crops production to sustain food security for their household and the production communities.

The state should resource Institutions such as PPRSD, EPA, and GSA which are under resourced by the provision of vehicles and logistics to enable them protect plants through surveillance on mango pest and diseases, also monitor the plants and disease control, the use of appropriate agrochemicals and reduce the overdose of agrochemicals on agricultural crops and human lives.

In rolling up any agricultural policy that may involve some donor participation and funding, farmers should from the onset be notified about their commitment in order that when such supporting funds dry up they can be self sustaining. The study recommend that farmers who benefit from donor fund such as MiDA and GIZ should be committed to pay dues or set aside money from the farm proceed to support activities of their FBOs. Through that FBOs can be self-sustaining whenever donor support funds dry up.

One production challenge which farmers are experiencing fruit-fly, black bacterial virus (BBV) attacks. Agricultural practices of non- members' of farmer based organization encouraged fruit fly menace to reach an epidemic level. The study recommends that farmers should see pest and disease control as shared responsibility between them and PPRSD. On this basis, farmers should mount surveillance on pest and disease infestation and report any attack to the PPRSD and EPA for prompt response in the control of such infestation.

Almost all of the fresh fruit processors are sited at the coastal belt, future plans for the middle mango belt such as Kintampo North, Wenchi, Ejura and Nkoranza should be predicated on factors such as up-grading of the Kumasi Airport whereby when processing companies are located presumably in Kintampo North or Techiman, consignments of processed mango or mango fruit can be air lifted directly from the production and processing communities to Accra for onward flight to the UK in order to maintain uninterrupted cool chain system and delivery schedules.

A future study on the mango industry should look at the sustainability of the mango industry among the diversified export crops such as pawpaw, pineapple, cashew and vegetables production.

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- www.MiDA.gov.gh

APPENDICES

APPENDIX (A)

Social Demographic Characteristics of Mango Farmers in the Study Areas

Variables	Yilo Krobo (frequency)	Kintampo North (frequency)	Total
Sex			
Male	9	19	28
female	3	1	4
N	12	20	32
Age			
20-29	0	1	1
30-39	0	1	1
40-49	5	4	9
50-59	2	8	10
60-69	3	5	8
7079	2	1	3
N	12	20	32
Education			
University degree	1	2	3
secondary	6	13	19
Basic	5	5	10
N	12	20	32
Occupation			
Farming	5	6	11
Trading	5	3	8
Public servants	1	7	8
educationists	1	3	4
Agribusiness	0	1	1
N	12	20	32
Marital status			
Single	0	1	1
Married	12	18	30
Widower/widow	0	1	1
n	12	20	32

APPENDIX (B)**Access to factors of production and inputs in the study area**

	Yilo Krobo (frequency)	Kintampo North (frequency)	Total
Credit			
Rural bank	1	2	3
EDIAF	0	14	14
ADRA	4	0	4
MiDA	3	0	3
<i>n</i>	8	16	24
Land type			
Usufruct	4	8	12
Leasehold	3	9	12
Purchase	5	3*	8
<i>n</i>	12	20	32
Labour type			
Family	2	3	5
Casual	24	64	88
Permanent	18	12	30
<i>n</i>	44	79	123
Inputs (Seedling)			
nursery operators	4	16	20
Own nursery	8	4	12
Inputs (agrochemicals)			
Fertilizer (compound)	4	12	16
Fertilizer(liquid)	12	20	32
Pesticides	12	20	32
Weedicides	12	20	32

- Purchase of land is from the Mo Traditional Area.

APPENDIX (C)**Social Demographic Characteristics of Smallholders and Large-Scale Mango****Farmers**

	Smallholders	Large-scale	Total
Sex			
male	13	15	28
female	3	1	4
N	16	16	32
Age			
20-29	1	0	1
30-39	0	1	1
40-49	5	4	9
50-59	6	4	10
60-69	3	5	8
70-79	1	2	3
N	16	16	32
Marital status			
Single	1	0	1
Married	15	15	30
Widow/widower	0	1	1
N	16	16	32
Education			
University degree	1	2	3
Secondary	9	10	19
Basic	6	4	10
N	16	16	32
occupation			
Farming	5	6	11
Trading	5	3	8
Public servants	5	3	8
Educationists	1	3	4
Agribusiness	0	1	1
N	16	16	32

APPENDIX (D)**Access to Factors of Production and Inputs by Smallholders and Large-Scale Mango****Farmers**

	Smallholders	Large-scale	Total
Credit			
Rural banks	1	2	3
EDIAF	6	8	14
ADRA	3	1	4
MiDA	0	3	3
<i>n</i>	10	14	24
Land type			
Usufruct	6	6	12
Leasehold	6	6	12
Purchase	4	4	8
<i>n</i>	16	16	32
Labour type			
Family	5	0	5
Casual	41	47	88
Permanent	0	30	30
<i>n</i>	46	77	123
Inputs (agrochemicals)			
Fertilizer (compound)	4	12	16
Fertilizer (liquid)	16	16	32
pesticides	16	16	32
weedicides	16	16	32
seedlings			
Nursery operators	12	8	20
Own nursery	4	8	12