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The Socio-Economic Effects of Commercial Pineapple Farming on Farm Employees and Communities in the Awutu-Effutu-Senya District

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This Dissertation is Submitted to the
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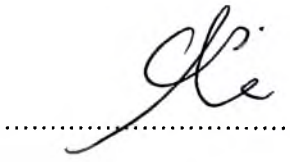
DECLARATION

I hereby declare that except for acknowledged references, this work is the result of my own research. It has never been presented anywhere, either in part or in its entirety, for the award of any degree.



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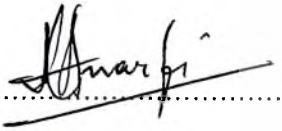

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Prof. John Kwasi Anarfi

Main Supervisor

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DEDICATION

I dedicate this work to all young people desiring to maximise their academic potentials through higher education.

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ACKNOWLEDGMENTS

I remain forever grateful to God for granting me this rare opportunity to unearth a hidden potential. My profound gratitude also goes to my supervisors: Professors John Kwasi Anarfi and N.N.N.Nsowah-Nuamah for their candid comments and criticisms.

Several key persons have made tremendous contributions to this project and they deserve special mention: Dr. William Ahadzie of the Department of Sociology of the University of Ghana, my academic mentor; Mr. Ronald Bastford, my uncommon brother and friend; Mrs. Sheila Noye, my uncommon motivator and senior and, Jacob Kwabena Osae and Diana Commey, my parents for their unflinching support through the years.

INTEGRI PROCEDAMUS

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ABSTRACT

This project attempts to identify the implications of commercial pineapple farming in the Awutu-Effutu-Senya District for farm workers and communities. Primary data were gathered using questionnaires, interviews as well as observations made in the farms and communities. Secondary data sources included published and unpublished official documents, new papers and the Internet. The report concludes that although pineapple farms offer employment opportunities for both citizens and migrant youth, most farmers tended not to make the welfare needs of employees a priority. Both farmers and communities in the area stand to benefit substantially from each other if farmers go beyond their usual obligations and respond to the social needs of those settlements. Suggested approaches to ensuring maximization of mutual benefits centre on the improvement of working conditions so as to achieve high worker productivity, strengthening of farmer-community relationship and taking communal initiatives. Specific recommendations include the initiation of a human resource development programme for farm management and workers, improved employee-management communication and the formation of a pineapple growers' association (to team-up with relevant stakeholders) to meet prioritised social needs of communities.

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Acronyms

AESD	–	Awutu-Effutu-Senya District
CRI	–	Crop Research Institute
CSIR	–	Council for Scientific and Industrial Research
GDP	–	Gross Domestic Product
GEPC	–	Ghana Export Promotion Council
GIPC	–	Ghana Invest Promotion Council
GSS	–	Ghana Statistical Service
ILO	–	International Labour Organisation
ISSER	–	Institute of Statistical, Social and Economic Research
MOFA	–	Ministry of Food and Agriculture
MRL	–	Maximum Residue Level
NGO	–	Non-Governmental Organisation
NTAE	–	Non-Traditional Agricultural Export
NTE	–	Non-Traditional Export
PPAG	–	Planned Parenthood Association of Ghana
PPMED	–	Policy Planning, Monitoring and Evaluation Directorate
SPSS	–	Statistical Package for Social Scientists
SSNIT	–	Social Security and National Insurance Trust
UN ACC	–	United Nations Administrative Committee on Coordination
USDA	–	United States Department for Agriculture

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1.0 INTRODUCTION

1.1 Background

Since the colonial era, successive governments in Ghana have consistently devoted considerable attention to the production of crops not only for food but also for foreign exchange. Within the framework of policies designed to this effect, crops with potentials of earning the country more foreign receipts were given priority over food crops. In consequence, cash crops such as cocoa, cashew and coffee became leading crops in the agricultural sector. The major underlying factor for the success in this area of exports is quite obvious: a growing demand on the international market.

To date, agriculture is clichéd as the mainstay of Ghana's economy. The agricultural sector contributes over 40 percent of the country's Gross Domestic Product (GDP) and employs more than 65 percent of the labour force. Ghana's agriculture is mainly subsistent, rainfall dependent and technologically traditional. Farmers are invariably smallholders who practice 'slush-and-burn'. Also, most livestock are allowed to range freely, usually in small herds.

Agricultural production is targeted at either national food security or raw material for industry and exports. The country's economy traditionally depends on exports of cocoa, gold and timber. Since the mid-1990s, however, the tourism sector has also become another major foreign exchange earner. The Non-Traditional Export (NTE) sector consists of *agricultural* and *non-agricultural* products. The *agricultural* products here include fruits, vegetables, cereals, fish (sea food) and, roots and tubers. Horticultural

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products, comprising fresh fruits, vegetables, flowers and ornamental shrubs have increasingly become the fastest-growing component of the *Non-Traditional* Agricultural *Export* (NTAE) sector.

Statistics from the Ghana Export Promotion Council (GEPC) indicate fruits and vegetables as fetching the country the highest percentage of foreign revenue among the horticultural products. In 2002, fruits and vegetables accounted for 74 percent of the total earnings of US$33.6 million from the horticultural products sub-sector and 29 percent of the total earnings of the entire agricultural sector (GEPC 2002). Data from the same outfit consistently indicated that ***pineapples led the fresh fruit export sector in terms of volume and value***. In 2002, pineapples alone contributed US$15.5 million, representing 75 percent of earnings from the fruit sub-sector; and 18.1 percent of total proceeds from horticultural products (See Table 1.1).

Table 1. 1: Contribution of Pineapples to Export Receipts from Horticultural Products, 1997 – 2003

Year	Value (in US$ '000)	Percentage of contribution to Horticultural Products Sector
1997	9,631.5	16.78
1998	8,769.4	11.27
1999	13,055.4	15.45
2000	11,853.1	15.90
2001	13,316.5	16.24
2002	15,520.0	18.10
2003	14,378.0	10.41

Source: GEPC, 2004

Commercial pineapple farming, as an enterprise, is an investment of human and physical resources to create productive assets. At the production end is the combination of land, labour and capital. Here, the term 'capital' refers to

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financial resources or physical assets such as machinery, chemicals, stock of materials and ultimately, pineapple suckers.

Apart from the vision and zeal required of an entrepreneur to invest in a time-consuming venture like pineapple production, financial resources probably constitute the most important non-human requirement. At the end of the day, making and multiplying it remains the primary goal of the investor. Within the economic theory of supply, economists assume that the desire to maximize profits (or financial capital) motivates all decisions taken within a firm (Lipsey, 1989). But profits are determined by the factors affecting demand for and supply of a product.

The demand for pineapple is a function of its price, prices of other goods and services, the total income of consumers, the distribution of income among consumers as well as consumers' taste. The goals of a firm, the price of the commodity, the state of technology and the prices of factors of production are the major determinants of the quantity supplied (Lipsey, ibid.).

All the factors of production are indispensable in the production process. However, labour is the element that actually makes production possible. Labour, whether skilled or unskilled, can be considered the most important factor. In the case of pineapple production, all activities ranging from making management decisions through planting, application of chemicals to harvesting and transporting the fruits are undertaken by labour.

An important dimension of labour supply for commercial agriculture is the heavy reliance on unskilled workforce. Invariably, communities that border

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commercial farms do not only offer land for cultivation but also tend to be immediate sources of cheap and unskilled farm labour. Where industrial ventures are established to process agricultural produce into other forms, such communities, which are usually rural in nature, become centres of industrialization. Forward and backward linkages with other sectors of the economy such as transportation, banking, housing, tourism, communication and so on are probable consequences. The direct implications for livelihoods are quite obvious. Todaro (2000) noted that specialised farms offer livelihoods for many rural dwellers and migrant labour. In 2001, studies carried out by United Kingdom-based Pesticide Action Network (PAN-UK) in Nsawam in the Akuapem South District of the Eastern Region revealed that some young men returned from low-paid jobs in towns to take up pineapple farming as a profitable career.

Pineapple processing and export also create employment opportunities for people in urban areas. For example, it is not uncommon to find canned pineapple juice produced in and outside Ghana in retail shops dotted along streets in cities and towns. The foregoing therefore implies that within the demand-supply chain of pineapple production, any changes made at the production level (pertaining to inputs and/or output) affect processors, exporters and consumers; in that order. In the same way consumers alter production, processing and export of pineapples when they change their consumption levels. Thus, these changes have social and economic implications for the farmer, farm employees as well as communities within the catchment areas of the farms.

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1.2 Problem Statement

Commercial pineapple farming is basically an economic venture, yet it has both economic and social outcomes for the three socio-economic groups mentioned shortly, viz.: farmers, their workers and communities. This research project focuses on the social and economic implications for two of the three groups, namely farm employees and communities in AESD. The motivation for throwing the search light on the two stems from the fact that commercial pineapple farming in Ghana is highly labour-intensive and a rural phenomenon (Obeng, 1994) and yet agricultural workers have been noted to be the poorest socio-economic group in the country (GSS, 2000). In commercial pineapple farming, labour is needed for land preparation, planting, weeding, chemical application (pest/disease control, flower and fruit induction), fetching water (especially for dipping) and harvesting. Manual labour is mostly used for land clearing on small farms and steep slopes where the use of tractor becomes inappropriate.

In spite of the strenuous and sometimes, many occupational hazards associated with working in those fields, farm management often tends to take workers' welfare for granted. For example, in March 2000, human rights groups and trade unions backed workers at one of Kenya's biggest pineapple plantations, Del Monte Kenya, in a campaign for improved conditions, including adequate protection from toxic pesticides used in pineapple production (Williamson, 2000). The Kenyan Human Rights Commission also indicated that wages for casual (seasonal) workers at the plantation were not enough to meet basic needs.

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The Ghanaian Constitution, which draws some inspiration from Conventions of the International Labour Organisation (ILO)[1], affirms the rights of agricultural workers to good occupational reward, health and compensation. Wages in Ghana, in general, and in the agriculture sector in particular, are very low (Newman 2004) although majority of the working population (55 percent) are employed in agricultural activities (GPRS 2003-2005). Over the past two decades, many demand-bearing groups of workers and trade unions in the public and private sectors have been involved in wage-related conflicts with their employers. The minimum daily wage was continually less than US$1 dollar until 2003 when it was raised to ¢11,200. Currently this figure exceeds the dollar by about ¢2,000.

The Ghana Poverty Reduction Strategy (GPRS, 2003-2005) indicates that apart from the three northern Regions, poverty[2] in the entire Central Region (of which the Awutu-Effutu-Senya is part) increased during the 1990s. About half of the population in the Central Region were poor. During the same period, export farmers, including commercial pineapple farmers, were proudly considered *'winners'* because majority of them experienced a reduction in their levels of poverty.

As established earlier in Section 1.1, commercial pineapple farming creates employment opportunities for people in rural areas. Theoretically, the engagement of people in commercial pineapple farms could be considered a catalyst for reducing rural poverty, as people would be better placed to afford

[1] Ghana has ratified 46 of the 185 ILO Conventions.

[2] In 1999, the Ghana Living Standards Survey, approaching the definition of poverty from an income-and-expenditure viewpoint fixed lower and the upper limits of the poverty line at ¢700,000 and ¢900,000 respectively. The poverty line is the minimum amount of money

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basic needs such as food, clothing, shelter, health and education. Also, pineapple processing and retailing could be potential economic activities at the local level. But as United Kingdom-based Pesticide Action Network (PAN-UK)'s 2001 study noted, *extra income does not necessarily translate into improved welfare for workers*. The study further observed that children of some pineapple farm workers continued to be malnourished and only an estimated 25 percent of respondents ate sufficient to meet daily requirements. The question is: ***do these indications of poverty and unmet needs repeat themselves or bear any semblance to the living conditions of workers in commercial pineapple farms in the Awutu-Effutu-Senya District, given that commercial pineapple farming in the area is confined to rural zones?***

Another closely-related issue is whether neighbouring communities have experienced any economic and/or social changes that can be attributed to their 'hosting' of commercial pineapple farms, especially with regard to the use of land. Access to farm land is a very critical issue in Ghana as demonstrated by numerous unending conflicts about ownership[3]. Landlords are likely to favour wealthy commercial tenants over less-endowed subsistent farmers. ***If peasant farmers lose cultivable land to specialised farmers and consequently lose their livelihoods in the process, what happens afterwards?***

A growing strand of thinking in 21st Century Ghana and elsewhere in the world where strong public-private partnership receives continuous advocacy is that government alone cannot shoulder the responsibility of providing social

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one needs to obtain the basic needs of life i.e. food, water, clothing and shelter. Those with annual incomes less than ¢700,000 were considered **very poor** and those who had less ¢900,000 were considered **poor** (GPRS 2003-2005).

[3] Between 1994 and October 2003, as many as 36,000 land cases were dealt with in the courts ('Daily Graphic' Editorial Oct 15, 2003).

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services to citizens. That the private sector is the engine of growth is cliché, at least in Ghana. Both profit-oriented companies and non-profit organisations, therefore, play essential complementary roles. In Ghana, companies that support social groups or activities trade social contributions for tax waivers. In business circles, such support is usually referred to as the company's 'social responsibility[4]'. Needy groups such as associations of the blind, orphanages, as well as schools, hospitals, communities tend to be the major beneficiaries.

To a large extent, however, a company's donations depend on its profit margin. Todaro (ibid.) reveals that in specialised farming systems like commercial pineapple production, emphasis in resource utilisation is no longer on land, water and labour as in subsistence and often mixed farming. Instead, capital formation, technological progress and, scientific research and development play major roles in stimulating higher levels of output and productivity. Having this as the backdrop, a relevant question might then be: ***to what extent do communities in benefit from social support schemes of commercial pineapple farmers?***

1.3 Study Objectives and Scope

As indicated in Section 1.2, the major thrust of this study is to investigate the social as well as economic effects of commercial pineapple farming on farm employees and communities in the Awutu-Effutu-Senya District. Within the context of this study, 'effects' are meant to be conditions, activities and events that may have cropped up as a result of siting commercial pineapple farms in the District. For individual farm workers, the study was interested in the

[4] The World Business Council for Sustainable Development (WBCSD) defines Corporate Social Responsibility as the continuing commitment by business to behave ethically and contribute to economic development while improving the

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changes in their living conditions that might have been brought about by their engagement in commercial pineapple farms. Issues of interest include the levels of monthly savings, acquired assets, occupational health and, support for nucleus family and relatives.

The effects of agricultural projects, such as the one under study, usually begin to emerge during the implementation period. However, full effects usually do not emerge until after full development of the project (UN ACC, 1985). Those effects have time and distance dimensions. They could be noticed both in the short- or long-term; and in the immediate environs or distant places. They could also be direct or indirect; positive or negative; benefits or losses. Whichever perspective one takes, they are inevitable.

The specific objectives of the study were:

i. to identify the implications of working in commercial pineapple farms using selected indicators of living conditions of employees. The indicators include monthly savings, occupational health, expenditure on assets, medical care and support for dependants;
ii. to investigate whether commercial pineapple farms in the district attract both indigenes and migrant labour;
iii. to assess the positive and/or negative economic and social activities and situations that may have occurred in the area as a result of the operation of commercial pineapple farms.

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quality of life of the workforce and their families as well as the local community and society at large.

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1.4 Significance of the Study

The title of this research project suggests the interplay of labour economics, agribusiness and sociology. Researchers in those fields of study as well as professional development planners and policy makers would find the study very useful as it attempts to enrich existing knowledge on pineapple farming in particular and Ghanaian agriculture in general.

The Awutu-Effutu-Senya District Assembly and its Directorate of the Ministry of Food and Agriculture would also find it resourceful in planning its local development. Other potential beneficiaries include current and future investors in the fruit production sector and students of development with interest in labour economics, rural development and agricultural economics.

1.5 Structure of the Dissertation

Chapter One, as may have been observed, discusses the structural background to the study by focussing on non-traditional export sector, to which pineapples belong. The Chapter also defines the problem under study and the motivation for embarking on the study. The project is quite relevant to labour economics, agricultural economics and sociology as indicated in the Section 1.4.

Chapter Two provides a birds-eye view of the Awutu-Effutu-Senya District. Such relevant attributes as infrastructural development, economic activities and demographics are given due attention here.

Gleaning a wide of range of literature with the aim of sorting out those relevant to commercial pineapple farming was very critical to the success of the project. The origin, spread and benefits of pineapples were given adequate

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attention in Chapter Three. The section also provides a brief analysis of commercial pineapple farming from the perspective of labour economics. The analysis, for example, takes a look at the effects of demand-side factors of production on farm workers. The conceptual framework on which the study was built is also presented in this Chapter.

Chapter Four discusses the methodology of the study. Issues such as sources of both primary and secondary data, Sampling Procedure, Data Analysis and Limitations constituted some of the key sub-topics of the section.

Chapter Five constitute analysis of actual data collected. It is core to the project because it provides a basis to compare theoretical explanations to real on-the-field observations. Essentially, the findings of the study are illustrated in this chapter.

Chapter Six concludes the study with a summary of findings and practical proposals for improvement in worker-management relationship and in social support for communities. Those recommendations are justified by the findings of the study.

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2.0 OVERVIEW OF THE AWUTU-EFFUTU-SENYA DISTRICT

2.1 Location, Size and Population

The Awutu-Effutu-Senya District (AESD) can be found north of the Equator and West of the Greenwich Meridian. It is specifically located between latitudes $5^0$20' (read "five degrees, 20 minutes") and $5^0$42' north and, longitudes $0^0$25' and $0^0$37' west. Thus, the District's approximate dimensions in terms of grids are 22 minutes wide and 12 minutes long. The West Akim District is at its north-eastern boundary and the Atlantic Ocean bounds the area in the south. On the eastern side is the Ga West District of the Greater Accra Region. The Gomoa District bounds AESD by stretching from east to west.

AESD covers an area of 417.3 square kilometres and its population nearly doubled from 89,426 in 1984 to 169,972 in year 2000 (GSS, 2000). This occurred at an annual growth rate of 4.0 percent leading to a population density of 407.3 persons per square kilometre by the turn of the millennium. Further, the figure (169,972) represented 10.7 percent of the total population of the entire Central Region (See Table 2.1 for a summary of key population characteristics of AESD).

The 2000 Population and Housing Census results painted a predominantly urban picture of the District (see Table 2.1), yet only 7 out of the 168 settlements have at least 5000 persons. Those settlements were Winneba (the District Capital), Kasoa (formally known as Oduponkpehe), Senya Breku, Awutu Breku, Bawjiase, Jei-Krodua and Bontrase. The district also had a sex

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ratio of 90 males to 100 females. On the average, there are 8 persons in every household.

Table 2. 1: Summary of Population Characteristics of Awutu-Effutu-Senya District

Population	Sex		Locality		Usual Resident population	District Share of population of Central Region (%)	Proportion Urban (%)
	Male	Female	Rural	Urban			
169,972	80, 535	89,437	58,582	111,390	174,615	10.7	65.5

Source: Ghana Statistical Service, 2002: 2000 Population and Housing Census, Summary of Final Results

2.2 Physical Characteristics

It is worth discussing the physical characteristics of the area because they exert a direct influence on agriculture in general and commercial pineapple farming in particular.

2.2.1 Relief and Drainage

The Awutu sub-district is basically undulating in nature with lowlands and isolated hills found along the Senya-Winneba coastline. Whereas the highlands have relatively loamy soils, the lowlands are clayey. The District is endowed with several streams and two major rivers – Ayensu and Gyahadze – which have their respective sources at Woarabeba and Opram. Both settlements experience significant levels of flooding during the March-April rainy season. The rivers along the coastal plains are potentially exploitable for extensive vegetable cultivation.

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2.2.2 Climate and Vegetation

As in many rural areas, agriculture in the District is largely rain-fed. AESD experiences two rainy seasons. The major season lasts for three months, from the beginning of April to the end of July but the minor season is characterised by a two-month duration (between September and November) and long-lasting drizzles. These imply that the dry season is five months long (i.e. between October and March). On the whole, the coastal area experiences low amounts of rainfall relative to the hinterlands. Mean annual rainfall ranges between 40cm and 50cm along the coast and between 50cm and 70cm in the hinterlands.

The vegetation of the area is made up of about 70 percent semi-deciduous forest concentrated in areas surrounding Ayensuako, Bawjiase, Bontrase and Osae Krodua. The loamy soils characterising this area coupled with the favourable temperatures and rainfall pattern, have proven to be very conducive conditions for prolific production of a wide range of root and fruit crops, most common of which are cassava, plantain, maize, yam, pineapple, pawpaw, cocoa and palm nuts. The cultivation of large Cassava farms and the operation of a starch extraction plant at Bawjiase in 2002 under the President's Special Initiative on Cassava remains outstanding an evidence.

The coastal area extending from Winneba to Senya is predominantly savannah grassland. Soils here are clayey and their proximity to the Atlantic Ocean makes them saline. Apart from being ripe for salt production, the area is noted to support the rearing of poultry and other livestock such as cattle, sheep, goats and pigs.

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2.2.3 Infrastructure

Roads

Ghana's First Class highway linking the capital city to the Central and Western Regions as well as La Côte d'Ivoire and other West-African countries runs westwards through the Awutu-Effutu-Senya District. There are also relatively good feeder roads connecting the major towns to villages in the hinterlands. Throughout the year, these roads are motor-friendly. These conditions facilitate the transportation of goods and people to and from the District. It is quite easy to travel in and out of the District all day and a little late in the night. Currently, the major highway is undergoing an extensive rehabilitation in order to accommodate the ever-growing traffic.

Electricity and water

All towns and villages along the main roads linking Kasoa, Awutu Breku, Jei-Krodua, Bawjiase, Senya Breku and Winneba are connected to the national electricity grid. However, villages located far from the main roads lack the facility. Access to potable water is rather a major socio-economic problem in AESD. Apart from Winneba, Bawjiase and Obrachire, no other settlement has pipe-borne water. Most settlements therefore rely on rivers, streams, boreholes and wells.

Education and health

There are public schools in virtually all settlements. PLAN Ghana, the Ghanaian chapter of an international Non-Governmental Organisation (NGO) with interest in education and health for children has been operating in about 37 communities in the District since 1992. Its assistance to communities

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includes school buildings, school uniforms, scholarships for needy children and, teaching and learning materials. PLAN also trains Traditional Birth Attendants and provides credit for women. Another NGO, the Planned Parenthood Association of Ghana (PPAG), provides sexual reproductive health clinics for some villages in the Awutu Breku neighbourhood.

AESD has one tertiary institution (University of Education) and two major secondary schools -- Winneba and Obrachire secondary schools. Apart from the Winneba hospital, there are other public clinics at Bawjiase, Kasoa, Senya and Awutu Breku. Most serious medical conditions are referred to Agona Swedru, also in the Central Region, and the nation's premier hospital Korle-Bu Teaching Hospital in Accra.

2.3 Economic Condition

Agriculture is a leading economic activity in the District. Enclaves of commercial pineapple farms in the Awutu-Effutu-Senya District have employed many young women and men in neighbouring communities and this is likely to lead to trickle-down effects both in the short- and long-terms.

Kasoa (originally known as Odupong Kpehe) is the fastest growing settlement providing a potential market for agricultural produce, commercial activities, financial services, education and utility supplies. The town's population shot up from 2,597 in 1984 to 34,719 in 2000 indicating nearly fourteen-fold increase. The major facilitating factor is the town's nearness to Accra (the country's capital city) and existence of the Class One road linking the hinterlands of the Central, Western and Eastern Regions. These two conditions enhance intra- and inter-township trade. Kasoa however, has quite a number

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of growing environmental and social problems - -the most striking being poor waste management practices, haphazard construction of buildings, unemployment and a rising crime rate.

Most inhabitants of the District (44.8 percent) engaged in crop farming. The Awutu-Effutu-Senya District is one of five districts in the Central Region that grow pineapples for commercial purposes. The four other districts are Komenda-Edina-Eguafo-Abrem, Abura-Asebu-Kwamankese, Upper Denkyira and Mfantseman. Within AESD, commercial pineapple farms can be found in areas surrounding Ahentia, Awutu Breku, Bawjiase, Bontrase, Ke-emuwor, Kwame Owettey, Ofaakor, Okyereko, Osae Krodua, and Tsotsoo.

In a household income and expenditure survey conducted in October 2002, the District Assembly discovered that the average annual income for households was ¢6,944,091. Average annual expenditure stood at ¢12,460,618, almost twice as great as income. The survey also indicated that as many as 73 percent of households depended solely on the income of household heads.

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3.0 REVIEW OF LITERATURE

There have been numerous studies on pineapple production. Many of those were undertaken by professional agriculturists with special training in crop science and agricultural economics and their studies were related to the technical details of varieties and impact of government policies on pineapple exports. Studies found were undertaken by the following institutions:

- Horticulture Division, Crop Science Department, Ministry of Food and Agriculture (MOFA);
- The Faculties of Agriculture and Social Studies, University of Ghana;
- The Faculty of Agriculture, Kwame Nkrumah University of Science and Technology (KNUST);
- The Crop Research Institute (CRI), Council for Scientific and Industrial Research (CSIR).

To a very large extent, these bodies have constituted the human resource base for those studies since the mid-1970s.

While acknowledging that this research might not be a pioneering one in agricultural economics, Ghanaian studies on the socio-economic effects of production of pineapples were difficult to come by compared to the relative availability of those on effects of government policies on production and export. The Internet proved extremely useful in the search for related investigations carried out within and outside the country. European studies found make inferences to socio-economic effects such as the health and income implications of working in pineapple farms.

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3.1 Origin and Spread of Pineapple

Pineapple (scientifically termed 'Ananas commosus') is believed to have originated from southern Brazil and Paraguay and was spread by the Indians to other parts of South and Central America. The Spanish and English explorers, however, were responsible for the introduction of this once-rare fruit to other parts of the world. The third most important tropical fruit after banana and mango, pineapple is cultivated in all tropical and subtropical countries. As pineapples grow and yield best in areas with warm and relatively uniform climate throughout the year, current production remains restricted to the tropical regions of the world. Specifically, the crop grows in areas with temperatures ranging between 25 and 32 degrees Celsius and average annual rainfall between 1000 and 1800 millimetres. Although pineapples thrive well in a wide range of soil types, well-drained sandy loamy soil with pH between 4.5 and 6 is best (MOFA, 2000).

In the 1960s, transnationals began to enter the pineapple industry on a large scale when the three leading firms, Del Monte, Castle and Cooke, and Nestlé stepped up their activities in the Third World (Dinham and Hines, 1983). The most important growth in the industry in Africa took place in Kenya (Del Monte), Swaziland (Nestlé) and in La Côte d'Ivoire (French-owned SCOA).

Pineapple was introduced in Ghana in the 17th Century or earlier (La Anyane, 1963). In the early 17th century it was cultivated in Samsam village in the Greater Accra Region and since then the village has remained a leading production area in the country. Nation-wide cultivation of pineapple was recorded in the second half of the 19th century when agriculture in Ghana

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experienced a rapid development through the efforts of missions and governments. In 1886, the idea of establishing agricultural stations for experimentation and extension was put into practice for the first time. The Basle Mission of the Akropong Station grew coffee and fruits including pineapple and experimented with other grasses and oil palm leaves for thatching. When the Aburi Botanical Gardens was established in 1890, horticultural products, including pineapple, received greater attention.

Commercial cultivation began after the early 20th Century when the Western Province (now Western Region) started experimentation with exportation (Obeng, 1994). Growing pineapples for commercial purposes increased in the Eastern Region in 1940 after the establishment of a cannery in Nsawam. Obeng (ibid.) recounts that recognition of the potential for the export market prompted the colonial government to carry out surveys to determine possible areas of cultivation.

All subsequent governments have made various efforts at boosting the production of the fruit for export. Pineapple production in Ghana experienced yet significant development and growth in the 1980s under the Provisional National Defence Council's Structural Adjustment Programme (SAP). As part of SAP, diversification of the export sector was pursued as one of the policy measures designed to arrest economic decline and promote sustained growth. Subsequently, pineapples dominated the horticultural sector contributing significantly (10 percent) to non-traditional agricultural export (Mkwandawire, and Bourenane, 1987).

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Some of the specific policy measures embarked upon were provision of worthwhile incentives to individual local farmers and commercial farms including tax rebates, tax free enterprise zones and market access. The government also established agencies such as the Ghana Export Promotion Council (GEPC) and the Ghana Investment Promotion Centre (GIPC) to assist both local farmers and foreign companies to increase production.

Pineapple still enjoys this recognition and promotion. The New Patriotic Party government, for example, has demonstrated commitment to the expansion of production through support to the private sector and NGOs to expand and improve upon their operation (MOFA, 2003). Under its 2002 Food and Agriculture Sector Development Policy, the government devoted much attention to variety improvement, meeting quality standards, provision of credit, development of farmer-based organisations and expansion of exports. In its 2004 budgetary allocations, government allotted $2million to importation of MD2 suckers for cultivation and export.

Private sector bodies like the Horticultural Association of Ghana, Sea-Freight Pineapple Exporters of Ghana and Farmapine[5] are major market players. TechnoServe, an international NGO, is a leading collaborator that provides business advisory services to many of these companies and smallholder out-growers. Currently, pineapple farming remains the sole occupation of many individuals in the country.

[5] Farmapine Ghana Limited is a company set up under an Agricultural Diversification programme jointly sponsored by the Government of Ghana and the International Development Association for the promotion of export of agricultural products.

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3.2 Varieties of Pineapple

There are many varieties (sometimes termed 'cultivars')of pineapple but well known commercial varieties include Smooth Cayenne, Queen, Sugar Loaf, Cowboy, Selangor Green, Perolera and MD2. Some varieties have several other names varying from country to country. For example, MD2 is also known as Maya Gold or Extra Sweet whereas Smooth Cayenne has other names like 'Cayenne Lisse', 'Maipuri', 'Kew', 'Sarawak', 'Esmeralda' and 'Saint Michel'. About 70 percent of the world production and 96 percent of the pineapple used by the processing industries come from one variety -- 'Smooth Cayenne' (Coppens d'Eeckenbrugge, G., Leal, F., 2001). Most Ghanaian farmers grow this variety. The Queen variety has occupied a small specific niche of high quality and expensive fresh fruit.

3.3 Benefits of Pineapple

Pineapple fruits are consumed fresh or processed as caned slices, solid packs or juice. Portions of the pineapple plant and processing wastes in the form of shell and bran, as well as centrifuge solids from juice production are used as animal feed. Pineapple fibre is considered to be more delicate in texture than any other vegetal fibre. About 60 cm long, white, creamy and lustrous as silk, it easily takes and retains dyes. Numerous tests in Brazil, Florida, India and the Philippines have shown its exceptional resistance to salt, vapour, and traction (Coppens d'Eeckenbrugge, G., and Leal, F., ibid.). A small cottage industry still exists in the Philippines for high quality clothes from pineapple fibre. Pineapple fibre has also been processed into a paper of remarkable thinness, smoothness, and pliability.

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Since the 17th century, pineapple has been documented to have medicinal properties. Bromelain is the name for a group of related protein-digesting enzymes extracted from the stem of the pineapple plant. It is particularly useful for reducing muscle and tissue inflammation and as a digestive aid. Bromelain was originally only extracted from Hawaiian pineapple stems but is now manufactured in Taiwan, Brazil and Puerto Rico. Pineapple Bromelain has been used commercially as meat tenderising enzyme. Medical experts have noted that Bromelain is very active with the inhibition of anti-inflammatory processes.

In addition to the above benefits, pineapple has such varied uses as wine making, correction of stomach disorders and poisoning of arrow points. Modern studies have confirmed these effects of green pineapple.

3.4 Extent of Global Production

As at 2003, approximately 80 countries around the world harvested a total of 32 million pounds (14,514.96 tonnes) of pineapple, more than double the average produced during the 1970s (USDA, 2003). Many of these producing countries have little presence in the world market, as most of their production (70 percent) is intended for domestic consumption. Nearly three-quarters of world supplies are produced in Brazil, China, Costa Rica, India, Indonesia, Kenya, Mexico, Nigeria, the Philippines and Thailand.

World trade mainly consists of processed products. Thailand and the Philippines supply 80 percent of *processed product* (comprising canned slices {1,065,000 tonnes} and juice {215,000 tonnes}). By 2001, Thailand was the leading pineapple producer (16 percent of world production), followed by

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Brazil (13 percent) and the Philippines (13 percent), India (8.9 percent) and China (7.3 percent). Europe was the leading importer with more than 226,000 tonnes (Coppens d'Eeckenbrugge, G., and Leal, F., ibid.).

In Ghana, pineapple cultivation is concentrated in the Greater Accra, Central and Eastern Regions (MOFA, ibid.). However, relatively small-scale farms can be found in the transitional savannah belt in Brong-Ahafo, Ashanti, Volta and Western Regions. Temperature, rainfall and soil conditions in all these Regions are ideal for the crop.

As at 2002, 2000 hectares of the crop was cultivated by small, medium and large-scale commercial growers, employing mechanised and high input technologies. According to MOFA (ibid.), even though average productivity of the crop was about 50 metric tonnes per hectare, between 80 and 100 tonnes per hectare were achievable if farmers had taken advantage of the favourable climatic conditions and combined it with good management practices.

3.5 Effects of Demand-side Factors on Production

Factors that affect demand for exported pineapple include, its world price, prices of other varieties, prices of other fruits, government policies in importing countries and, consumers' income and preferences. However, ample empirical evidences from Thailand, United States, Europe, the Philippines and other places around the world suggest that overtime demand for pineapples can greatly be influenced by three of the aforementioned factors: consumers' preference for particular varieties, world price and policies of importing countries. In this section, consumers' preference for particular varieties and

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world price are given a closer look because, often, they leave unrestrained effects on demand for farm labour.

3.5.1 Consumers' Preference for Varieties

Consumers' taste greatly affects the demand for pineapples, which in turn, has unavoidable implications for supply of the produce. In 2001, the Ghanaian pineapple industry responded to increased demand for fresh pineapple in the temperate markets with the introduction of more attractive cultivars as 'MD2', also named 'Golden Ripe'. Developed in Costa Rica, MD2 has longer shelf life, allows colour inducement and is extra sweet. Since the introduction of MD2, exports value of Ghana's Smooth Cayenne was adversely affected (Asamoah, 2004). Price per sucker of the new variety was also expensive in the country. The government therefore intervened in February 2004 by investing $2 million for the importation of MD2 suckers to be cultivated and also exported. It is worthnoting that in labour-intensive farms, a probable spin-off effect would be changes in farmers' demand for labour.

3.5.2 Consumers' Preference for Other Kinds

a. Method of Production

The method of producing pineapples also has market implications. Pineapples grown without application of chemicals are known as organic pineapples. Virtually all farmers growing pineapples on a large-scale apply growth-stimulating chemicals such as fertilisers and insecticides. Williamson (2000) noted that Ghanaian fruit and vegetable producers have the potential to tap into the high-value organic niche market, given the remarkable current annual growth rate of about 20 percent in most European countries. Even though

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growing organic pineapples require a lot of hard work, production from most small-scale farmers is organic by default, as they cannot afford chemical fertilisers. As a matter of fact, growing foods organically has been the conventional approach in Ghana. Thus, Ghana has a comparative advantage to explore markets not only in Europe but also in other parts of the world. Athena Foods, a Ghanaian company processing fruit juices into concentrates, has uncapped this well of potential by taking the lead to produce orange concentrates for the European market at competitive prices. The company has designed pragmatic strategies to venture into the processing of fresh pineapples. All things being the same, this development will eventually lead to an increase in demand for labour in that sector.

b. International Standards

International market standards for pineapples are yet another important facet of consumers' preferences. Williamson (ibid.) recounted that the livelihoods of smallholder farmers in Ghana who had benefited enormously from cash-cropping pineapple since the 1990s were threatened by changes in European market requirements in 2001. The main issue here was a new European Union (EU) legislation on pesticide residue. The EU reduced its Maximum Residue Levels (MRLs) from 2mg/kg to 0.5mg/kg. The MRL was specifically directed at the use of the chemical; ethephon (Box 3.1) which is applied shortly before harvest to induce the fruits to change from green to golden yellow colour. This process is known as de-greening.

Ghanaian exporting companies cancelled two shipments for fear of exceeding the MRL. The legislation generated a dilemma between providing safer food

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for consumers and protecting the income and health of African smallholders. This perception is quite convincing. Clearly, the farmers' livelihoods were at the mercy of European consumers. Williamson (ibid.) observed that many farmers complained they could not afford the rapidly rising costs of pesticides and fertilisers. Some of the farmers were women who had far fewer financial resources than men did. Eventually, some of the women gave up pineapple cultivation. Some young labourers became redundant as they could not find substitute jobs.

Box 3.1: Pesticide Regulation and Application

De-greening is standard practice for the Smooth Cayenne variety produced for export, in order to speed up the natural colour change so that fruits meet the required coloration by the time they arrive on the supermarket shelves. Ethrel, the most commonly used ethephon product in Ghana, is sprayed on the pineapple plants by workers of the exporter companies once the farmer agrees to sell the fruits. Despite ethephon's function as a plant growth regulator, it is an organophosphate (OP) compound, classified as a pesticide and placed in the United States Environmental Protection Agency's top toxicity category for acute dermal and eye irritation. Under good practice, de-greening with Ethrel should take place at least seven days before harvest and when the fruit is fully mature, so that minimum quantities are applied and any ethephon residues degrade well before the fruit is eaten. Williamson (ibid.).

3.5.3 Exports Destination and Prices

The nearness of the Regions of concentration of pineapple farms to the Tema harbour and the Accra international airport facilitates the transportation of pineapple fruits to destination countries. Smallholders have been producing the crop for the European market since the early 1990s. Forty percent of all pineapple exports from the country go to Germany whereas Italy takes 24 percent. Belgium receives 14 percent; the United Kingdom absorbs 5 percent while other European markets taking the rest (GEPC, 2004). Time series data obtained from the Ghana Export Promotion Council (GEPC) depict an upward trend in both the quantity and value of exported pineapples although they fluctuate in the short-term (See Figure 3.1).

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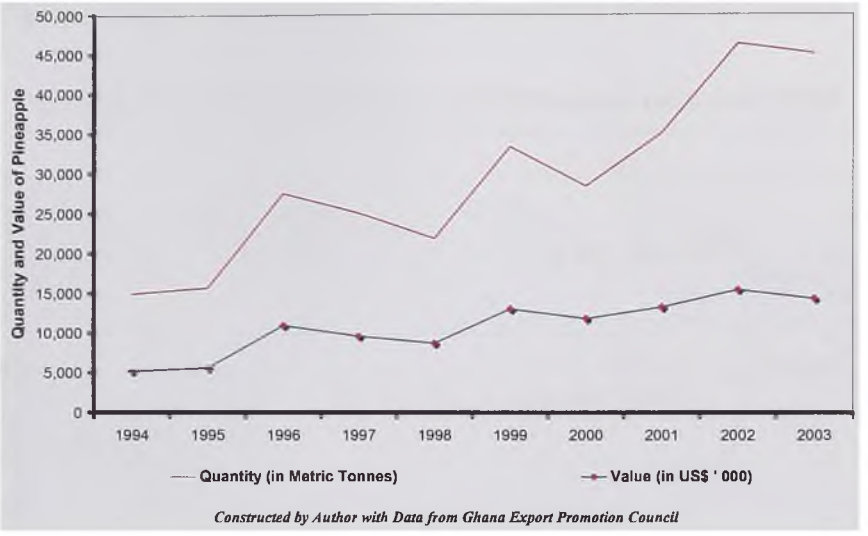
Figure 3. 1: Ghanaian Pineapple Exports by Quantity and Value, 1994 - 2003



Constructed by Author with Data from Ghana Export Promotion Council

Prices vary directly with farmers' revenue. All other factors remaining the same, a fall in prices leads to a reduction in farmers' revenue, which in turn, can lead to a reduction of the size of farm labour. The reverse of the situation also holds. Changes in world prices of pineapple therefore raise a lot of concern among producers and exporters. Empirical data reveal that world prices of pineapple transported by sea vary from those transported by sea.

Ghana's air-freighted pineapples are mainly marketed in Switzerland and Belgium. Though air-freighting still remains the major system of transporting pineapples to Europe and other destinations, sea-freighting to under-supplied markets in Northern Europe, particularly Germany and Holland is gradually gaining grounds (TechnoServe, 2004). Sea-freighting is disadvantaged because of long shipping lapses to northern Europe with the attendant loss in the quality of some shipment. Nonetheless, data published by the Federation

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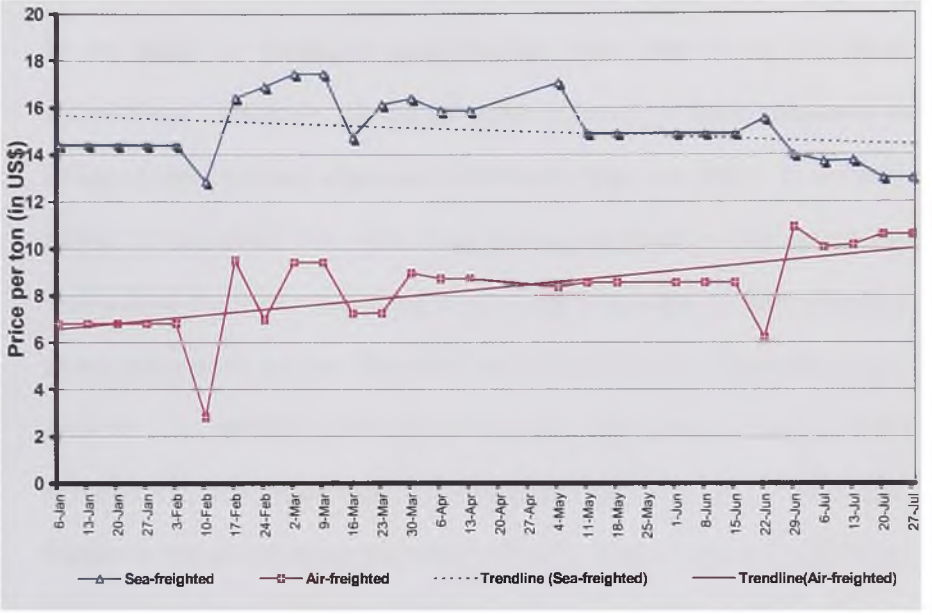
of Associations of Ghanaian Exporters (FAGE) indicated sea-freighted pineapples attracted fairly higher world prices than air-freighted pineapples. Figure 3.2 shows the two prices on weekly basis over a seven-month period.

Figure 3 2: World Prices of Sea- and Air-freighted Pineapples, Jan. 6 - Jul. 27, 2004



Original Data Source: Standard Chartered Bank / Federation of Associations of Ghanaian Exporters.
Complied by Author from Back Issues of 'Daily Graphic'

In spite of the great differentials in the two prices, the trend lines reasonably confirm TechnoServe's view that sea-freighting was a disadvantaged option for transporting pineapples. Although prices are volatile in both cases, air-freighted prices show a relatively steep trend. A cursory look at the chart shows that sea-freighted prices began reducing from February till it hit its lowest value in July.

3.6 Effects of Chemicals on Workers

The risks associated with exposure to insecticides like chlorpyrifos may be much higher, especially if farmers do not use suitable gloves when dipping

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suckers by hand in drums of the diluted insecticide. Handling spiny pineapple foliage causes frequent cuts and abrasions to the hands, increasing substantially the risk of skin absorption and blood contamination via open wounds.

In the Island of Mindanao (near Manila) some workers in Del Monte Corporations' pineapple plantations were reported to have nauseated or collapsed after constant exposure to fertilisers (Paquibot, 2003). In the same Island, it was noted that while none of the smallholders interviewed had experienced any acute poisoning when using pesticides in their pineapple plots, young male workers from the spray team had been hospitalised in the previous 12 months, following insecticide application. They suffered stomachache and experienced skin irritation when they used chlorpyrifos. Fertilisers like diammonium phosphate are said not have immediate effects but when usage is prolonged, it causes skin and eye irritations. Most workers in several plantations did not use protective clothes consistently, implying that they were rather passive about their health. In those farms, moreover, management were observed to have ignored or placed minimal emphasis on preventive medical care. They rather demonstrated willingness to spend on curative medication; hence they paid workers medical treatment and sick allowances.

3.7 Conceptual Framework

The entire research is built around the economic theory of production but much emphasis is placed on the fact that labour is an important factor of production and therefore deserves fair working conditions and good living

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standard. Closely related to this issue is the argument for social responsibility towards communities from which commercial pineapple farmers tend to benefit in one way or the other.

Apart from being sources of readily available labour, neighbouring communities of all specialised farms, including commercial pineapple farms in rural Ghana invariably tend to be the custodian owners of land. Ownership may be direct or indirect. The central issue of this strand of thinking is that offering employment to people in those communities ought to be combined with commitment to and delivery of basic social services towards the social development of such communities.

Not too many of existing literature found explicitly relate factors affecting the demand for and supply of pineapples to the social and economic effects on workers or communities. Figure 4.1 illustrates the conceptual framework for analysing those separate dimensions. It is an attempt to provide the linkages among the factors affecting the pineapple market and the implications for farm labour. Changes in factors determining demand for pineapples and in factors (other than labour) that determine the supply of the fruit impinge directly or indirectly on the working and living conditions of workers as well as conditions of neighbouring communities. The focus of this study, as mentioned earlier, is on those effects.

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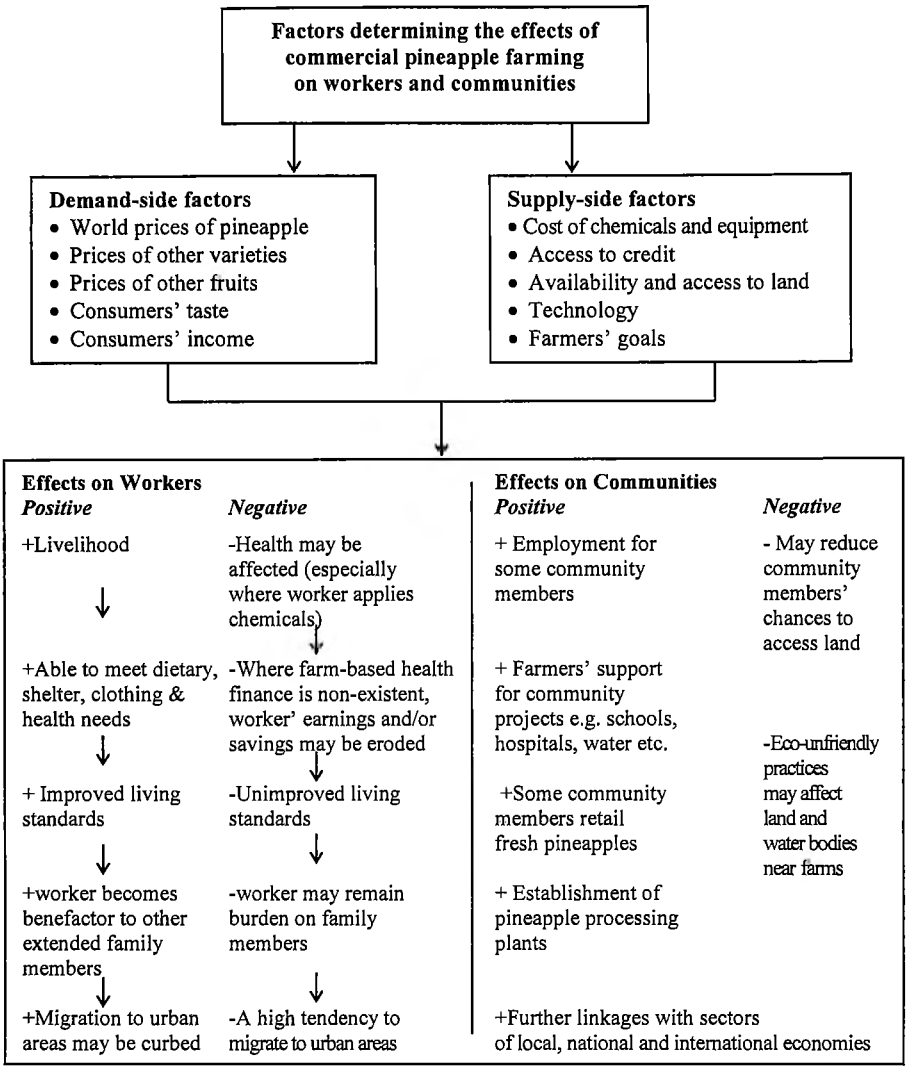
Figure 4. 1: Conceptual Framework



Arrows indicate the linkages (between factors and between the effects).

Constructed by Author.

Explanation

The Conceptual Framework presented above is an illustration of the immediate and distant effects of the supply of and demand for pineapples on farm labour. All things remaining the same, a change in any of the demand-

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side or supply-side factors that leads to an increase in demand for pineapples would necessitate an increased demand for labour. The reverse also holds.

Suppose consumers prefer MD2 varieties over any other, then any producer country may take advantage and then increase production. Increasing production is dependent on several factors, including the availability of labour. Such a development may result in an increase in the number of pineapple farm workers. A negative effect from the demand-side or the supply-side may also result in adverse replications on farm labour. These effects are captured in the third layer (bottom tier) of the framework. The framework may be expanded as several other linkages may be formed.

Definition of Terms

1. The terms '**Farm'** and '**Company'** are used interchangeably
2. **'Large-'** and **'small-scale'** farms: For the purpose of this study large-scale farms were those with sizes equal or greater than 350 acres. By implication, those with sizes less than 350 acres were considered small-scale or smallholder farms;
3. **Intra-district migration**, (movement of workers within the Awutu-Effutu-Senya);
4. **Inter-district migration** (movement of workers from another District in the Central Region to AESD);
5. **Inter-regional migration** (movement of workers from one Administrative Region of the country to AESD);

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6. **Non-Traditional Export (NTE)** sector consists of agricultural and non-agricultural products;
7. **Agricultural products** include fruits, vegetables, cereals, fish (sea food) and, roots and tubers;
8. **Horticultural products** comprise fresh fruits, vegetables, flowers and ornamental shrubs.
9. By '**effects'** are meant conditions, activities and events that may have cropped up as a result of cultivating pineapples on commercial basis in the District.

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4.0 METHOD OF DATA COLLECTION AND ANALYSIS

Two approaches to the collection of primary data were identified in order to capture changes in workers' living conditions as a result of their employment in pineapple farms. The first was to compare data relating to their living conditions before and after joining the companies. This could be termed the 'before and after' approach. The other option was to compare variables representing the living conditions of pineapple farm workers and those pertaining to people who do not work in commercial pineapple farms. For a project like this, the latter group of workers would have been referred to as the comparison group. Most social scientists would call it the control group. The term comparison group is used here with caution because *a true* control group, in this context, would be the unemployed. Choosing the comparison group would have implied adoption of the 'with-and-without' approach. The author decided on the 'before-and-after' approach. But for the short time frame and limited resources, a 'with-and-without' approach would have provided appropriate grounds to compare working conditions of pineapple farm workers with those of non-pineapple farm workers in the community. This approach could be explored should the study be revisited.

4.1 Sources of Data

4.1.1 Sources of Primary Data

Basically, four categories of persons, namely; farm workers, farmers, landlords and opinion leaders of neighbouring communities were identified as the sources of primary data. However, the main units of analysis were pineapple-farm workers and communities.

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Two different sets of structured questionnaires (for workers and farmers) and interview guides (for landlords and opinion leaders) were designed (See Appendices 2, 3, and 4). The structured interview approach was chosen to aid effective comparison of responses among workers and across farms.

Again, the interview guide was used as a qualitative instrument for collecting views from the opinion leaders and landlords. It was to provide adequate room to the interviewer to probe issues and add explanations where necessary in order to obtain specific and detailed information.

The questionnaires were pre-tested in two farms: Prudent and Segus. A few changes were made in the farmers' category. Request for production levels and the number of employees had to be restricted to prevalent (i.e. 2004) situation because farmers had difficulties finding past records. Keeping to the previous requests for production levels would have delayed interviews for weeks.

Landlords and opinion leaders in the communities were also interviewed. They were asked questions regarding the payment of royalties and how they compensated occupants of lands prior to take-overs by commercial pineapple farmers. Opinion leaders interviewed included District Assembly and Unit Committee members. The communities involved in this case were Awutu Breku, Okyereko, Papaase Number 1, Papaase Number 2, Gyan Kwanta, Jei Krodua and Bawjiase. The rest were Kwame Owettey, Ke-Emuwor, Ahentia, Ofaakor, Osae Krodua and Tsotoo.

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While in the field, relevant observations were also made in the communities as well as farms.

Visits were also made to local health posts in order to confirm or reject the claims of farm workers about the incidence of work-related sicknesses and/or accidents as well as the validity of the costs of treatment. The health posts visited included those at Jei-Krodua, Awutu Breku, Bawjiase and Kasoa. Thus, multiple research methods were used so as to produce more reliable empirical data than is available from a single method.

4.1.2 Sources of Secondary Data

A desk study of secondary data was carried out to review existing works related to the subject matter of this study. Both published and unpublished official documents were obtained from the following institutions:

i. Horticulture Division, Crop Science Department of the Ministry of Food and Agriculture (MOFA),
ii. Awutu-Effutu-Senya District Directorate of MOFA, Winneba
iii. Ghana Export Promotion Council, Accra
iv. Department of Agricultural Economics and Agribusiness, Faculty of Agriculture, University of Ghana, Legon
v. Institute of Statistical, Social and Economic Research (ISSER), University of Ghana, Legon
vi. TechnoServe (a leading international NGO providing business solutions to rural poverty, with national headquarters in Accra).

In addition to the above, the Internet was extensively used to gather published electronic data. Easy access to the facility and the speed with which detailed

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information was made available within a short space of time proved it a very handy tool for contemporary research. Besides, time series data on world prices of pineapple as well as several articles obtained from local newspapers (especially '*Daily Graphic*') were extremely useful.

4.2 Sampling Procedure

Sampling was done at two stages. Farms were selected at the first stage. A total of 12 pineapple farms were sampled from a list of 22 farms obtained from the Awutu-Effutu-Senya District Directorate of the Ministry of Food and Agriculture using the Cluster Selection approach. Those 22 farms were in groups of three and four in particular areas of the District and this provided justification for labelling them as clusters. The twelve farms represented 55 percent of the entire number of farms and the number was established as statistically representative of the population of farms. Five (5) clusters of farms were identified in the District. At least two (and at most three) farms were selected from each cluster using the Simple Random Method. Thus, in each cluster, the farms were numbered and only odd-numbered farms (3, 5 or 7) were selected. Again this gave a fair representation of the farms. The clusters were named after the closest settlements; namely Bontrase, Okyereko, Awutu Breku, Ofaakor and Bawjiase. Table 4.1 shows the nearest communities, clusters and the numbers of respondent workers of all 12 farms.

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Table 4. 1: List of Target Farms and Corresponding Number and Percentage of Respondents

No.	Name of Farm	Location	Cluster	No. of workers interviewed	Total No. of Workers	Percent of total workforce
1	Jei River	Ofaakor	Ofaakor	14	170	8.2 %
2	Prudent	Opimo	Bawjiase	11	123	8.9 %
3	Georgefields	Osae Krodua	Ofaakor	13	106	12.3 %
4	2K	Bawjiase	Bawjiase	3	12	25.0 %
5	Segus	Okyereko	Okyereko	4	16	25.0 %
6	Anyidado	Okyereko	Okyereko	6	20	30.0 %
7	Plant Star	Ke-Emuwor	Awutu Breku	8	51	15.7 %
8	Grey Star	Kwame Owettey	Awutu Breku	7	22	31.8 %
9	Wienco	Okwaabena	Bawjiase	12	115	10.4 %
10	Unifruit	Fianko	Bawjiase	13	102	12.7 %
11	Nai Kwao Otuoh	Toboase	Bontrase	7	20	35.0 %
12	Effah	Tsotsoo	Awutu Breku	2	7	28.6 %
	Total			**100**	**764**	

Source: Survey data

At the second stage of the sampling procedure, 100 pineapple farm workers were randomly chosen from 12 different lists of names of workers totalling 764. In each farm, lists of workers were obtained and only workers whose names were odd-numbered (3, 5, 7, 9, 11 and so on) were selected for the interviews. This was to give all workers same chances of being selected. Visits were made to pineapple farms and to homes of some workers where they were interviewed. Given the short time to prepare the report and inadequate funding, it became expedient to limit the sample to a manageable size of 100.

4.3 Data Analysis

The Statistical Package for Social Scientists (SPSS), Microsoft Excel and Microsoft Word were used to process and analyse data. As all closed-ended questions in the employees' questionnaire had been pre-coded, entry of

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responses was carried out with relative ease. Open-ended questions were coded at the end of the entire survey. Descriptive statistical tools like charts and tables were used to depict data and to add meaning to their importance. Frequency tables and cross-tabulations of variables relating to employees and the farms were carried out with the aid of the SPSS software.

Specific variables of interest with regard to workers' demographic characteristics and welfare include:

i. Number of employees;
ii. Sex differentials by farm;
iii. Number of workers who had suffered work-related illnesses;
iv. Employers' provision for workers' medical care;
v. Dependency on workers by their relatives etc.

As regards the effect of pineapple farming on the living standards, variables considered include:

i. Acquired assets over length of employment;
ii. Workers' average monthly savings;
iii. Monthly spending on rent;
iv. Average spending on medical treatment.

Particular attention was paid to differences, similarities and trends in these and other variables relating to workers and across farms. Where necessary, gender comparisons were made in order to depict similarities and differences.

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4.4 Limitations and Problems

As indicated in Section 4.2, it became expedient to limit the sample to a manageable size of 100 given the short time to prepare the report and inadequate funding. In all farms, only 2 of the farmers were available as at time of the interviews. In the case of absentee farmers, however, farm managers were extremely helpful.

Throughout the survey, the managers and workers were co-operative with the exception of Jei River Farms where management was hostile; hence, reluctant to give information. Although workers in that farm were willing to co-operate, they had to be interviewed in their homes in the evenings because management disallowed the exercise in the farm.

Another challenge was delay of the primary data collection process. The author's field assistant had to give up the exercise at a point after he was injured in the collarbone while boarding a truck to a farm. Eventually, a longer time was spent administering the questionnaire because the author solely continued and completed the process.

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5.0 RESULTS

5.1 Farm Characteristics

5.1.1 Ownership and Size

Owners of the farms were largely sole proprietors. Unifruit and Jei River Farms were limited liability companies ranking as the two largest farms. Their fields covered 505 and 703 acres respectively (See Appendix 1 for sizes of other farms). Nai Kwao Otuoh Farms was the smallest with a land area of 10 acres. With the exception of Jei River farms where the farm manager was an expatriate, all other Farms are owned and managed by Ghanaians. Anyidado Farms (at Okyereko) and Nai Kwao Otuoh Farms (at Fianko) were owned separately by two local chiefs. Citizens of towns or villages in the area owned seven of the 12 farms surveyed. Grey Star, Wienco, Unifruit, Prudent and Jei River owned by non-citizens. There were no female owners or farm managers.

5.1.2 Access to Land

Generally, the farmers did not experience any difficulties accessing land. All of them, apart from the two local chiefs, were leaseholders. Unifruit was the only company that expressed dissatisfaction with the land tenure system. For all other farms, there were no conflicts associated with the ownership of land. Citizen-farmers paid relatively cheap rents ranging from ten thousand Cedis (¢10,000) to sixty thousand Cedis (¢60,000) per acre per year. The farms had been operating in the District between 2½ years (Effa Farms) and 15 years (Jei River Farms). The modal number of years was 4.

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5.1.3 Choice of Site

All farmers cited land availability, soil suitability, rainfall adequacy and proximity of farms to the sea port at Tema and the airport in Accra as major guiding factors in choosing sites. Grey Star in particular had relocated to Ahentia because the rainfall pattern in its previous location in the Western Region was not favourable.

5.1.4 Pineapple Varieties

The farms grew similar varieties of pineapple. The most commonly cultivated was Smooth Cayenne. Other varieties were Queen, Sugar loaf and MD2. Each farm grew at least one variety and at most three. Large-scale[6] farms had two or three varieties as compared to smallholder farms, which had one variety. To a large extent, farmers' ability to grow different varieties could be associated with their access to credit and farm acreage.

5.1.5 Economic Interdependence

Smallholder farms sold their produce to exporters and local consumers. Such farms, however, complained about exporters' unfair prices. Large farms like Prudent, Unifruit, Jei River and Wienco exported pineapples themselves. Grey Star Farms, though quite young (three years) in production, had began trial exports. Small-scale farmers depended on their large-scale counterparts for spraying chemicals and harvesting cartons. This arrangement exemplifies benefits of siting farms in same neighbourhoods.

[6] For the purpose of this study large-scale farms were those with sizes equal or greater than 350 acres. By implication those with sizes less than 350 acres were considered small-scale or smallholder farms. There were six in each category (See Appendix 1 for details).

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5.2 Employee Characteristics/ Demographic Profile of Employees

5.2.1 Sex and Age

The 100 respondents consisted of 63 men and 37 women aged between 18 and 49 years. Child labour is therefore non-existent in the farms. The mean age was 29 years. The age distribution shows smaller proportions for teenagers (4 percent) and those in their forties (8 percent). The rest of workers were in their twenties and thirties. Indeed, fifty-nine percent of respondents were in the 20-27 age bracket. By implication, farmers relied on young persons who have the requisite physical strength.

5.2.2 Marital Status

Fifty-four percent were married but 30 percent were single whereas 10 percent were divorced. All of the remaining 6 percent were separated. Also, 7 of the 10 divorcees were women.

Sixty-two (62) percent of workers were parents: 46 parents were married; 4 were separated; 9 were divorced and 3 were single. Logically, these persons were more likely to bare the responsibilities of providing their children's educational and health needs.

5.2.3 Dependency

5.2.3.1. Number of Children

The number of children that parents had varied from zero to 7. Only one married person, however, had 7 children. Whereas each of 21 workers had only one child, 20 of them had 2 children each. Twelve persons had 3 children each and 6 had no children at all.

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Parents were further asked to state the ages of their youngest and oldest children. The essence of this part of the exercise was to identify the number of children depending on parents for their educational, health, food, shelter and other basic needs. The age range for the youngest children varied between seven months and 14 years but 57 percent were under five years of age. The oldest children were aged between 2 and 27 years. Seventy-five percent of them were aged between 2 and 12 years and 16 percent were teenagers.

Respondents with children were asked about the educational status of those children. Nine percent of them had none of their children in school; primarily because they were not of school-going age (i.e. less than 2 years). The rest had school children or children who had completed primary or secondary school.

5.2.3.2 Child Care

Another important facet of dependency considered was parents' level of domestic burden as regards childcare. Parents were therefore asked to name persons who took care of their wards while they were on duty. Fifty-two percent (52%) of workers, who happened to be male workers, indicated that their wives were in charge. Also, 23 out of the 63 parents, representing 37 percent said they left their children in the care of their sisters, brothers, mothers and other relatives. Three percent of parents, however, had no one to take up the responsibility at home.

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5.2.3.3 Support for Relatives

A third dimension of dependency that the author took interest in was the number of relatives who depended on workers for financial support. About 52 percent indicated that they remitted their parents. Siblings were the next largest group of benefactors as revealed by 34.5 percent of workers. Other dependant relatives included nephews, nieces and uncles. 7.1 percent of workers, however, said they had no dependants. In all, 63 percent of benefactor workers were males. Dependency on workers was, as such, fairly high. Meanwhile, high dependency ratios in Ghana have been identified as one of the major socio-economic factors accounting for the poor state of the family in Ghana (Apt, 2002).

5.2.4 Workers' Level of Education

The essence of generating data on workers' educational attainment was to determine the levels of formal training among pineapple farm workers. Table 5.1 shows the summarized data on workers educational background.

Table 5. 1: **Educational Background of Workers**

Sex	Level of Education												Total	
	None		Non-formal		Primary		JSS/ Middle Sch.		Secondary Commercial		Tertiary			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Male	7	**11.1 %**	0	**0.0 %**	8	**12.7 %**	39	**61.9 %**	8	**12.7%**	1	**1.6 %**	63	**100**
Female	8	**21.6 %**	2	**5.4 %**	8	**21.6 %**	18	**48.6 %**	1	**2.7 %**	0	**0.0 %**	37	**100**
Total	**15**		**2**		**16**		**57**		**9**		**1**		**100**	

Source: Survey data (The percentages are highlighted because they reflect the true proportions than the numbers).

The data in Table 5.1 shows that the educational levels are generally higher among men than women. The Table shows a decreasing percentage of women workers towards the end of the education ladder as possibly suggested by

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higher proportions of females with little or no formal education. Invariably, the farms have a large pool of Junior Secondary and Middle School graduates from which they choose workers. Also, not too many people with tertiary educational background work in the farms. The few in this category are men and they occupied middle-level management positions such as supervisors and trainers. From the interviews, the author gathered that most of them were graduates from the Kwadaso Agricultural Training College in the Ashanti Region.

5.3 Working Conditions

5.3.1 Jobs

Eleven kinds of tasks were recorded. Of all 11, most workers were assigned to packing and grading harvested pineapple fruits and suckers. Women outnumbered men in relatively less strenuous jobs while men dominated in weeding, application of chemicals, security, store keeping, plastic mulching, planting and trimming. There was no woman supervisor or driver. The job situation varied from one farm to another, though.

5.3.2 Transportation

The distances between residences of workers and the farms were estimated in order to determine the extent of a farm's catchment area. The mean distance travelled to work was 6.1 kilometres. The shortest was 0.5 of a kilometre and the longest was 36 kilometres, in which particular case the worker lives in Accra but works in Grey Star Farms at Ahentia. Most of workers travelled to work in groups on company trucks. The same trucks were used to load fruits and equipment. Some workers expressed their dissatisfaction with this mode

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of transport because it was not safe enough. Small-scale farms such as Anyidado, Segus, Nai Kwao Otuoh and Effah farms had no vehicles at all because workers lived in nearby villages and could walk to the fields. So was the situation for several workers in large-scale farms. These imply that farmers had readily available labour within their catchment areas.

5.3.3 Length of Service

The longest serving worker had been employed for 6 years. The newest worker had been on the job for only 2 months. Twenty-two percent (22%) of workers had been working for less than 1 year as compared to 2 percent who had worked for 2 years. A large number of workers (52 percent) had been working in farms for between 1 and 2.9 years and 24 percent had laboured in the farms for between 3 and 4.9 years. As many as a quarter of the 100 employees had been working for exactly 2 years. Large-scale farms like Jei River, Georgefields, and Prudent employed seasonal workers at the time of harvesting fruits or suckers. Plant Star was the only company that had all 41 employees on part-time contract. Workers here could be laid off at any time the farmer wishes.

5.4 The Pre-Employment Situation

5.4.1 Previous Jobs

In order to determine the previous job situations of workers and to ascertain the economic effects of their present employment, respondents were asked to indicate their immediate past jobs. Those who had changed jobs were further probed to uncover the reasons for their decisions. Table 5.2 indicates the details of the situation. Across all 12 farms, 29 percent of employees indicated

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they were unemployed, making it the first-ranking reason for seeking employment in the farms. Whereas 18 percent had moved from other pineapple farms, 17 percent were traders. Others were previously students, apprentices and fishermen. One person was a teacher.

Table 5. 2: Previous job situation and reason for change of jobs

No.	Reason for working in pineapple farms	Previous job situation								Total
		Unemployed	Same job in another farm/company	Trader	Student	Apprentice	Had my own farm	Teaching	Fishing	
1	Laid off		3		-					**3**
2	Previous business not lucrative			7			5		1	**13**
3	Job was very difficult/risky		3						1	**4**
4	Low remuneration	2	9	1			1			**13**
5	Need money to further my education	2			4					**6**
6	On attachment				1					**1**
7	Needed additional/supplementary income/income inadequate			5		1	14	1		**21**
8	Need money to learn vocation	2								**2**
9	Need money to start my own business		-	1		4				**5**
10	Unemployed/Needed money to survive/regular source of income	22	3	3	1	1	2			**32**
Total		**29**	**19**	**17**	**6**	**6**	**22**	**1**	**2**	**100**

Source: Survey data

For as many as 32 percent of respondents, working in the commercial pineapple farms was a survival strategy. Some had been laid off in other farms while those who were traders said their previous businesses were not lucrative. Those who were previously dress-makers or auto mechanic apprentices decided to work in the farms to build up start-up capital. A few (2 percent) had

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plans of either furthering their education or enrolling in vocational apprenticeships. Twenty-two percent revealed that they had their own farms but needed supplementary income. Eleven percent of workers left their previous jobs on the grounds of low remuneration. Two farm managers however revealed that their main reason for changing jobs was a strong interest in pineapple farming.

5.4.2 Second Jobs

Workers were also asked if they had second jobs. As many as 62 percent of them indicated they had no additional jobs. Some complained that they returned home tired and could not have taken on additional jobs. The rest were peasant farmers, traders and part-time hairdressers.

5.4.3 Migration and its Forms

Thirty-seven (37) percent of all workers were not citizens of their settlements of residence. Three forms of migration were recorded. These were *intra-district* migration, (movement within the Awutu-Effutu-Senya) *inter-district* migration (movement from another District in the Central Region to AESD), and *inter-regional* migration (movement from one Administrative Region of the country to AESD). The last form was very common in relatively large-scale farms like Jei River, Prudent, Unifruit and Grey Star and Plant Star. Settlements of origin in this category included Koforidua, Kwahu Bomeng, Somanya and Akuapem Larteh, all in the Eastern Region of Ghana. Other hometowns of origin were Sogakope in the Volta Region and Juaso in the Ashanti Region.

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Within the *intra-district* category however, workers had relocated from places like Fianko, Kwanyako, Kasoa, Bawjiase, and Awutu Breku. This was the commonest form of migration. Places of origin as regards *inter-district* migration included Agona Swedru in the Agona District and Ejumako in the Ejumako-Enyan-Esiam District. None of the migrant workers interviewed was a foreign national.

Workers' main reasons for leaving their previous jobs varied among citizens and migrant workers. Table 5.3 shows that most migrant workers left their previous job on the grounds of low remuneration and unemployment.

Table 5.3: Reasons for leaving Previous Job by Workers' Place of Origin

No.	Reason for leaving previous job	Percentage of Workers' Who are		Total
		Citizens	Migrants	
1	Laid off	3	0	**3**
2	Previous business not lucrative	8	5	**13**
3	Job was very difficult/risky	0	4	**4**
4	Low remuneration	3	10	**13**
5	Need money to further my education	6	0	**6**
6	On attachment	0	1	**1**
7	Needed additional/supplementary income	16	5	**21**
8	Need money to learn vocation	2	0	**2**
9	Need money to start my own business	2	3	**5**
10	Unemployed/Need to survival / regular source of income	23	9	**32**
	Total	**63**	**37**	**100**

Source: Survey data

The table above also shows that majority of the citizens of the District were previously either unemployed or underemployed and therefore needed a regular source of income. Citizens also constituted the majority (16) of the 21 percent of workers who decided to work in the commercial pineapple farms because they needed additional income.

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5.5 The Post-Employment Situation: Effects of Work on Employees

One of the main concerns that motivated this study was the welfare of employees. The main argument was that employees' engagement in pineapple farms impinges on their living conditions. Key variables chosen as indicators of welfare, for the purpose the study include *occupational health, means of transportation, social security contributions and reward for hard work.* Other welfare variables were *average monthly savings*, *expenditure on rent and acquired assets*. In order to check for consistency of responses regarding occupational health, existing rewards and social security contributions, both employers and workers were asked same or similar questions. In-depth interviews were also held with senior health personnel of health posts from which workers received treatment.

5.5.1 Occupational Health

Employers and workers were asked whether the companies had made any provisions for workers' medical care. In all, 70 percent of workers responded in the affirmative. However, Segus and Anyidado had no arrangements to take care of workers' health (See Appendix 1). The rest either reimbursed medical expenses after treatment or had made arrangements with clinics to post-pay treatment fees. Indeed, 31 percent of workers, largely those working for Georgefields and Jei River Farms, chose the latter system. Workers who belonged to these two farms received treatment at a private clinic at Jei Krodua.

Although 67 percent of respondents indicated that their farms had made preparatory arrangements for on-site injury, medical attention in times of

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injury was inadequate. Twelve percent of respondents revealed that their companies had no on-site First Aid medication. If the degree of injury was very high, victims were either transported (when a vehicle was available) to nearby hospitals or were given piggybacks by colleagues to a nearby road where vehicular transportation to a hospital was easily accessible. One respondent at Grey Star Farms who was seriously injury in the right foot (when a security man mistakenly shot him) recollected that he was initially treated with herbs before being transported to Awutu Breku for proper treatment.

In farms without any pre-arranged health finance schemes, respondents indicated that the company paid for medical expenses where injuries were very serious. Otherwise, victims paid it themselves. Of the 70 respondents who had been ill since they began working in the commercial pineapple farms, 61 of them attributed their sicknesses to the nature of their work on the farm but the rest believed their health problems were not work-related. Having noted in Section 1.1 that the management of commercial pineapple farms in Kenya and the Island of Mindanao were somewhat passive to the health of workers, this situation did not come as a surprise at all. However, as indicated in Section 4.1, it became imperative to validate workers' claims about the incidence of work-related sicknesses at the health posts.

In Jei River, Georgefields and Prudent Farms where management had made post-treatment payment arrangements with the Jei-Krodua health post, most workers were reported to have initially abused the scheme. The most commonly reported sickness then was Malaria. Knowing that Malaria is not

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work-related but rather sanitation-related, the companies decided to limit treatment of staff to work-related injuries and sicknesses that occur while on duty. Some commonly reported accidents were eye injuries as a result of pierces from the sharp tips of pineapple leaves, skin abrasions and cuts. Similar cases were discovered at the Awutu Breku clinic [where Grey star and Plant Star workers received treatment] and the Bawjiase clinic. Staff of Wienco and Unifruit visited also visited the clinic at Bawjiase.

5.5.2 Benefits and Rewards

Apart from fringe health benefits, considerable attention was paid to other benefits that accrued to commercial pineapple farm workers. Those included workers' social security contributions, loans and rewards. Forty percent of workers made monthly contributions [5 percent of their monthly salaries] to the Social Security and National Insurance Trust (SSNIT). As required by law, employers pay 12.5 percent of a worker's salary. Jei River, Georgefields, Unifruit and Prudent were registered with SSNIT and they fulfilled this obligation for all permanent staff. Most smallholder and relatively new farms had not registered with SSNIT (See Appendix 1). The management of Grey Star Farms, however, revealed that plans were underway to insure workers and their families.

For most farms, reward for workers was in the form of bonuses although others had end-of-year parties and best-worker awards. About Fifty-six percent of respondents indicated their farms gave bonuses. The next common reward was end-of-year party as indicated by 34 percent of respondents. Best-

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worker awards were ranked third by 2.1 percent of workers. The rest of the workers (8.3 percent) said their companies had no rewards for workers.

Workers were asked to indicate how their employment in the pineapple farms had benefited them as well as any problems they faced, which were attributable to their employment. Benefits mentioned included ability to pay children's school fees, ability to buy personal effects and ability to save some money. Almost 26 percent said they were able to provide support for their nucleus families and some relatives. Indeed, most workers remarked that their main problem was that they returned home late and could not perform other home chores or study in the evenings. Clearly, these were direct negative effects of the employment on workers' living conditions. This is probable extension of the negative triple-down effects of working in pineapple farms on workers, as captured in the Conceptual Framework (Figure 4.2).

5.5.3 Expenditure

5.5.3.1 Medical Expenses

For the 70 respondents who had been ill since joining their companies, 55 of them said their companies paid for their medical fees while 14 paid it themselves. One person said she received financial assistance from her mother in order to settle her medical bills. Eighteen (18) out of 69 spent forty thousand Cedis (¢40,000) each but generally, medical expenses ranged from twenty thousand Cedis (¢20,000) to one hundred thousand Cedis (¢100,000). Workers considered medical expenses as quite high.

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5.5.3.2 Accommodation

There were 43 tenants out of the 100 respondents. Most of those (43) were migrants. The remaining 57 lived in family houses or their own houses. Monthly rates for rent varied from one settlement to another. In relatively large towns like Bawjiase and Awutu Breku, rates were between ¢25,000 and ¢35,000 per month per single room. Workers considered those relatively high. Mean monthly expenditure on rent was ¢31,000. The commonest rate was ¢30,000 per month although the lowest rate was ¢10,000 per month. To most respondents the rates were affordable.

5.5.3.3 Expenditure on Assets

Workers were asked to list assets they had acquired using their salaries. The essence of this was to determine how beneficial their work was to meeting basic personal and material needs. From the responses, 17 assets were noted and they were categorized into 8 groups as Table 5.2 depicts. Some 10.7 percent of workers however said they had acquired no assets.

Table 5. 4: Assets* Acquired by Respondents by Sex

No.	Asset	Sex		Total	% of Total Assets
		Male	Female		
1	Cookware	2	6	8	5.3 %
2	Bedding materials	16	6	22	14.7 %
3	Clothes	11	22	33	22.0 %
4	Domestic appliances	18	6	24	16.0 %
5	Building materials	14	6	20	13.3 %
6	Vocational equipment	0	4	4	2.7 %
7	Furniture/ room decor materials	18	3	21	14.0 %
8	Bicycles	2	0	2	1.3 %
9	Nothing	9	7	16	10.7 %
	Total	94	56	150	100.0 %

Source: Survey Data

Note: * Assets here consist of consumables and durables

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Spending on consumables like clothes was high, yet investment in durables like building materials, furniture, vocational equipment and domestic appliances was relatively low. The table also suggests that many men were interested in buying durables while women were generally interested in cookware, clothes and vocational equipment. To some extent, that situation signals the fact that as heads of households, men were determined to meet basic material needs like housing. Some of the items in this category include roofing sheets, building blocks, furniture, carpets etc.

Items categorised as vocational equipment included hairdressing equipment and sewing machines. On the whole, the statistics suggest that workers who had purchased some assets were interested in meeting basic needs like clothing, housing and entertainment.

5.5.4 Savings

In addition to acquired assets, respondents were asked to state their average monthly savings. The motive here was to find out whether monthly salaries were sufficient to meet expenditure throughout a month. Monthly savings was chosen instead of monthly salaries because, at the pre-testing stage of the questionnaire, most respondents were unwilling to declare their true incomes. Whiles 30 percent said they saved nothing, some 10 percent saved ¢100,000 (See Figure 5.1). The mean amount of money workers saved per month was ¢46,000.

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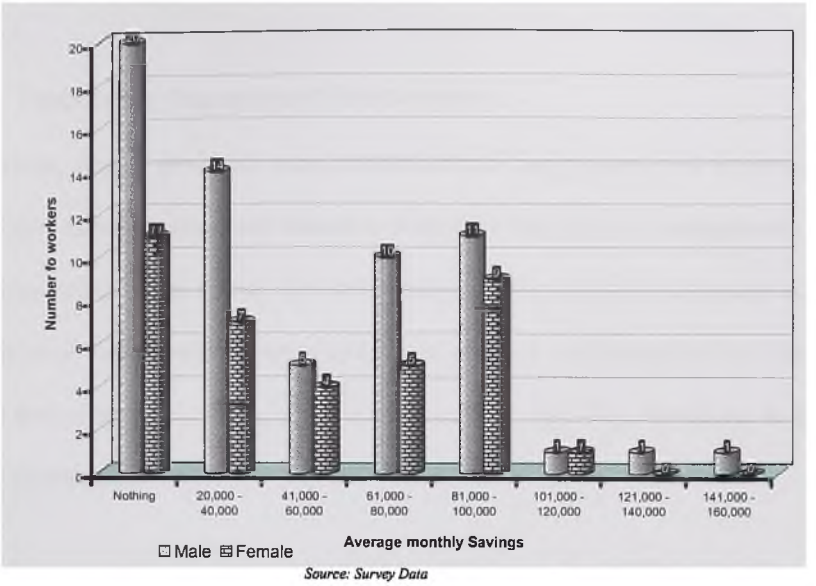
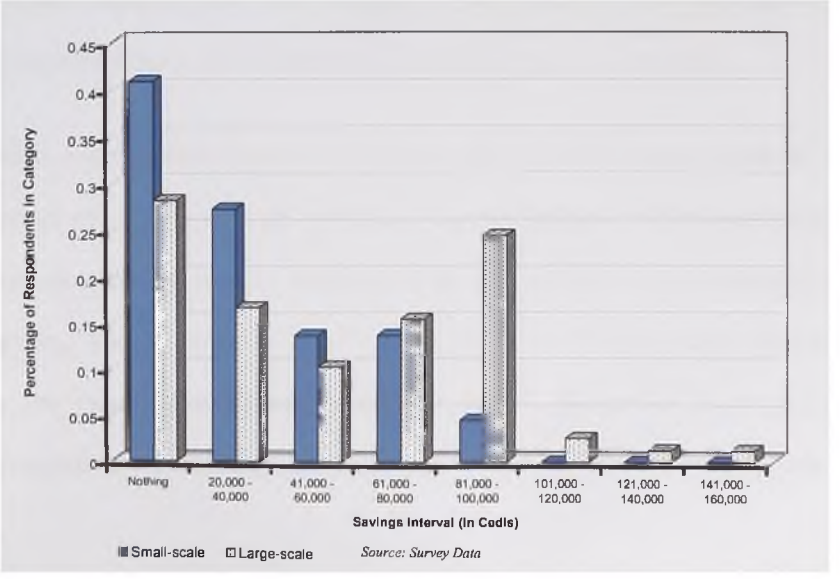
Figure 5. 1: Average Monthly Savings among Workers by Sex



Source: Survey Data

A comparison of workers' average monthly savings among small-scale (farms with sizes less than 350 acres) and large scale (farms with sizes greater or equal to 350 acres) revealed that employees who had relatively higher savings were in the latter category. Examples of large-scale farms include Prudent, Georgefields, Grey Star, Unifruit and Jei River (See Figure 5.2).

Figure 5.2: Average Monthly Savings of Workers by Category of Farm



Note: 22 workers belonged to small-scale farms and the rest (78) belonged to large-scale farms

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5.6 Employee-Management Relationship

Here again, similar questions were directed at both management and workers. Qualitative variables that were chosen to determine the nature of management-employee relationship across the farms included the incidence of quarrels, arguments or disagreements and dismissal of workers. Further probe into the causes and consequent actions taken to resolve those was also carried out as a matter of necessity.

Many interviewees (87 percent) said they had never quarrelled, argued or disagreed with management over any issue since they began working in the farms. The rest, who responded in the affirmative, gave reasons as complaint about delay or adequacy of salary and/or complaint about workload. Two admitted they did not perform their tasks satisfactorily. Another person, nonetheless, remarked that his supervisor was not polite. All but one of the 13 who had been involved in any form of conflict with management was a woman. Eight of them were accepted again after they had apologised to management but 5 were suspended for some days (at most a week).

When asked whether they knew about anyone who had been dismissed, 71 percent of respondents said they were certain. Reasons for dismissals ranged from absenteeism without permission, through disrespect to management to fighting. Thirty-five out of the 71 indicated theft of farm produce or property as the cause of dismissal, making it the major reason. Disrespect to management was the next important reason. However, 4 persons disclosed that

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workers were dismissed because they did not perform their duties to their supervisors' satisfaction. Complaint about adequacy of salaries and fighting were less common. The foregoing situation suggests that farm managers and/or owners were invariably confronted with unruly workforces in the face of their (managers'/owners') expectations of outstanding performance. Even so, some workers tended to be tolerant and submissive.

5.7 Effects of Pineapple Farming on Communities

As was the case with workers and management, same questions were directed at opinion leaders and the farm owners in order to check for consistency in responses. The nature of the relationship between farm management and communities was of particular interest because it could give an indication of the extent to which companies fulfilled their social responsibilities to communities. Contacts were therefore made with some landlords as well.

All companies had cordial relationships with their landlords. An annual routine was payment of royalties to landlords, which came in the form of in-kind or cash gifts. In the case of Anyidado and Nai Kwao Otuoh Farms however, no payments were made to landlords, as they (the farm owners) were chiefs in their respective communities.

Combinations of in-kind gifts were in packages which included bottles of schnapps, bags of corn and ram or bottles of schnapps and a ram. Sometimes cash was added to in-kind gifts. Cash gifts ranged between three hundred thousand Cedis (¢300,000) a year to two million Cedis (¢2,000,000) a year. Amounts donated to landowners were directly related to the sizes of the farms.

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For example, whereas Unifruit Farms, which occupies 505 acres of land paid two million Cedis ¢2,000,000 per annum, Segus Farms (occupying 100 acres) paid eight hundred thousand Cedis (¢800,000) per annum.

Where the owners of the farms were citizens of a neighbouring community or belonged to a royal family that owned the land, the companies were committed to assisting the communities. Plant Star Farms was highly commended by a member of the Awutu-Effutu-Senya District Assembly for supporting community projects. Support from the company included clean-up campaigns prior to the celebration of the Awutu's annual Akumasi festival and drilling of boreholes. Grey Star had also supported a rural electrification project at Ahentia. In the Bawjiase cluster of farms, Unifruit had donated some funds to support the construction of toilet facilities at Fianko. Located near Winneba, Segus Farms had also made financial contributions to assist the Okyereko community construct a dam as a source of water.

Unit-Committee members of the District Assembly at Ofaakor, Papaase Number 1 and Papaase Number 2 were rather unhappy because, in their opinion, Jei River Farms treated them unfairly. At Ofaakor, a Unit Committee member disclosed that the farm employed only about twenty (20) citizens of the village. As explained in Section 4, farm management was tight-lipped and hostile and so confirmation of this opinion could not be established. At Papaase Number 1, it came to light that the company had failed to deliver on its promise to provide toilet facilities.

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5.7.1 Access to Land and Environmental Issues

For some subsistent farmers, access to land was not problematic although in a few villages, large plots of land for peasant tenants had been given out to some commercial pineapple farmers. Some opinion leaders interviewed at Gyan Nkwanta and Papaase Number 2 were rather disgruntled because their chiefs and elders rented out land to Jei River Farms at the expense of poor small farm holders. Subsistent farmers in Gyan Nkwanta were not compensated for losses they suffered when the company expanded its fields. Some recounted that they lost large fields of oil palm and coconut in the process.

A serious environmental and social issue was prevalent at Papaase Number 2. During rainy seasons, eroded chemicals from the pineapple farms polluted the Jei stream which served as their major source of water for cooking and washing. The river also served as a last resort of drinking water for majority of inhabitants. Incidentally, water pumped from the only borehole in the village was very salty and was therefore good for cooking only. Drinking water was largely purchased from vendors. Clearly, the lives of the people would be in peril as long as the situation was not corrected. The situation is very likely to lead to the outbreak of water-borne diseases in the short- or long-term. The situation at Papaase Number 2 has a potential to escalate into a disaster.

5.7.2. Implications of Commercial Pineapple Farming for Availability of Land

The District has a vast expanse of land and farming continues to be a major occupation in the area. However, fertile land for agriculture, and for that

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matter, commercial pineapple farming may suffer keen competition in future if the presence of commercial farms becomes heavy. Major stakeholders such as traditional rulers, peasant farmers and commercial pineapple farms recognize the importance of each player in the development of agriculture in the area. The major group of players are chiefs/traditional rulers as they own most lands. They need to be guided by farmers to both small farm holders and large farm holders to avoid land disputes. Commercial farms must not make economic gains at the expense of small-holder tenants as it occurred at Gyan Nkwanta (See Section 5.7.1). As captured in the Conceptual Framework, that situation was a negative effect on community development.

5.7.3. Implications of Commercial Pineapple Farming for Type of Activities in the District

Being an economic activity, commercial pineapple farming has its backward and forward linkages with many sectors of the local and national economies. At the local level, payment of workers through the rural banks, for example may lead to the expansion of bank services in the area. As workers are economically empowered, there would be a tendency to increase expenditure on goods and services (as shown in Section 5.5.3.3). A rise in personal income, all things being the same, may lead to an increase personal expenditure, which demands the use of transportation. Same linkages could be established with the local trade and commerce sectors. These may be some of the positive effects of the pineapple business at the local level (as depicted by the Conceptual Framework).

The continuous growth in pineapple production highlighted in Section 1.1 may lead to increase in the country's Gross Domestic Product (GDP). As

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explored earlier in Section 1.1 GEPC figures consistently indicated that ***pineapples led the fresh fruit export sector in terms of volume and value*** (GEPC 2002). Pineapple processing is yet to be explored in the area. Should commercial pineapple farmers, for instance, venture into that business, employment creation and a boost in GDP are but a few of the benefits that could be derived.

Other Benefits

Both communities and farmers stand to experience mutual gains if the relationship is symbiotic. Traditional rulers may extend land lease periods. In addition to making individual contributions towards community development, the farms may team efforts and introduce a joint Community Development Fund. Through such a scheme, the companies would be able to impact significantly on many communities.

Conclusion

The foregoing suggests that pineapple farms are vibrant sub-sector in agriculture in the study area. Both indigenous and migrants were increasingly becoming beneficiaries because they were able to afford certain basic needs. However, some farms tended not to place premium on the welfare of their workers. In such cases, workers' income may be 'eroded' [as described in the Conceptual Framework] and may not be able to save much. Communities are also yet to witness real commitment of farms to their development. Some peasant farmers lost their lands to commercial pineapple farmers.

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6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The successful operation of enclaves of commercial pineapple farms in the Awutu-Effutu-Senya District indicates that specialised farming has not only gained grounds in the area but it also is a potentially vibrant sector for rural development. Both large-scale and small-scale producers are increasingly investing in this lucrative business. Owning pineapple fields with sizes ranging from 10 acres to over 700 acres, the farmers indicated that favourable climatic conditions, easy access to the sea- and airports coupled with a willing and available labour force are some reasons for siting farms in the District. Other important reasons for investment in the pineapple sector include the growing local and international demand for fruits and the commitment of government to support the industry. The District therefore hosts some of the fastest-growing fruit production and export companies in Ghana.

A large portion of pineapples produced in AESD, as in other parts of the country, is exported to Europe. A few tonnes are sold locally. Well-organised companies well known as 'exporters' purchase the produce from farmers and transport it either by sea or air. Exports, however, tend to be affected, to a large extent, by world prices, international standards (such as maximum residue levels) and consumer preferences. In the face of these, experts in the sector have noted that exporting sea-freighted pineapples is more expensive than air-freighting. Also, time series data [as evidenced by Figure 3.2] suggest that prices of sea-freighted pineapples have a tendency to fluctuate in a downward fashion whereas prices of air-freighted pineapples showed a favourable upward trend.

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These could leave adverse or positive spin-off effects on farmers' revenue and consequently, their demand for unskilled labour. The study confirms the dependence on Middle School or Junior Secondary School graduates by the companies for large proportions of labour. Indeed some farms depend largely on part-time (casual) labour.

In spite of the fact that employment in pineapple farms is considerably volatile, working in those fields is a major livelihood for most young people in their twenties and thirties. The farms had also attracted some migrant workers. Thirty-seven (37) percent of all respondents were not citizens of their settlements of residence. Consequently, three different forms of migration were discovered: intra-district, inter-district, and inter-regional migration.

Workers across the farms generally expressed satisfaction with their ability to fulfil some basic needs. Some workers were able to invest in durable assets such as domestic appliances, furniture and building materials although average monthly savings are very low. The monthly mean was forty-six thousand (¢46,000).

Majority of workers, especially those working in relatively small-scale farms, were denied basic social benefits. For example some workers' Social Security Contributions were not paid. In all, workers expressed their pressing welfare needs as upward adjustment of their salaries, payment of expenses and institution of reward schemes. Most workers who left one farm and joined another gave low remuneration as their reasons.

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A few companies were committed to occupational health. Often, workers in smallholder farms and some large-scale farms were denied of health and social security benefits. Preparatory arrangements for on-site accidents and emergency situations were rather inadequate.

In the face of the foregoing, theft of fresh fruits and company property turned out to be the major reason for workers' dismissal. However, such high tendency to steal fruits and other materials suggests a probable underlying factor: inadequate wages and so a desire to supplement income through foul means. As many as 48 percent of respondents ranked upward adjustment of their salaries as their most important need. On the other hand, the situation suggests that the farms were invariably faced with unruly workforces although farm management usually demanded commitment to good performance and behaviour. Eighty-seven percent of workers said they had never had any quarrels or arguments with farm management; implying that workers were probably tolerant and submissive.

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6.2 Recommendations

The following suggestions are based on the findings from the study. Essentially, they centre on three issues: the working and living conditions of farm workers; and, employee-farmer and farmer-community relationships.

i. Farmers need to be educated about the importance of teamwork as an effective management strategy. A training programme for farmers that seeks to educate them about the importance of human resource management and development would therefore be necessary. The Directorate of the Ministry of Food and Agriculture in the Awutu-Effutu-Senya District could consider this as a key annual activity and involve all parties in the activity planning process. Apart from farm management, workers ought to be represented in the training workshops.

   Such relevant issues as occupational health, communication and work ethics could be considered as core topics for discussion in an interactive and a co-operative atmosphere. This could be a window of opportunity for sharing experiences and strengthening activities of farmers' associations. The Directorate would need to monitor the implementation of all recommendations identified. Occupational health ought to be considered a priority in all farms as both farmers and employees may lose substantial consolidated gains through preventable medical expenditure.

ii. The issue of communication is very important. Majority of workers perceived that management had not treated them satisfactorily. As indicated in the preceding section, 48 percent of respondents agitated for upward adjustment of their salaries. In addition, 13 percent asked for

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registration with SSNIT and 11.8 percent indicated their third welfare need to be medical allowance. Perhaps workers had over-bloated impressions about farmers' revenue. But farm management could, as a matter of concern, communicate its goals, objectives and expectations to workers periodically. Any grievances that may escalate into conflicts could be nipped in the bud at such fora. Respect for both sides could then increase. Tides of confrontation could also be stemmed and acts of indiscipline like theft of fruit and company property could also be reduced. Ultimately, workers' productivity would increase.

iii. Commercial pineapple farmers in the District could take advantage of their clustering in the area to form a social service conglomerate so as to support social projects in communities. A common fund where resources are pooled would be a prudent option. The association could liaise with the District Assembly to facilitate the provision of needed community amenities. Representatives of the Assembly, farmers and community leadership would need to identify and prioritise the needs of settlements as a participatory approach to community development.

iv. The District Assembly and the District Directorate of MOFA could intervene in the process of land acquisition for commercial farming (be it pineapples or any other crop) in order to ensure that the livelihoods of subsistent tenant farmers are not jeopardised. Again, that would ensure that expansion in commercial pineapple production in the area is not achieved at the expense of household food security.

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v. As indicated in Section 1.2, where industrial ventures are established to process agricultural produce into other forms, such communities, which are usually rural in nature, become centres of industrialization. Forward and backward linkages with other sectors of the economy like transportation, banking, housing, tourism, communication and so on are probable consequences. Groups of citizens of AESD could therefore take advantage of the lucrative business and team up to form cooperatives and venture into pineapple production and processing.

The District Directorate of the Ministry of Food and Agriculture and Association of Pineapple growers may consider these in their development planning processes.

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Appendices

Appendix 1: Selected Farm Characteristics

No.	Name of Farm	Years of operation	Size of farm (in acres)	Total No. of Workers	No. of workers interviewed	% of total workforce	No. of worker Social Security Contributors	
							Yes	No
1	Jei River	15	703	170	14	8.2%	0	4
2	Prudent	5	608	123	11	8.9%	0	6
3	Georgefields	10	400	106	13	12.3%	0	2
4	2K	4	35	12	3	25.0%	10	4
5	Segus	5	100	16	4	25.0%	9	5
6	Anyidado	9	140	20	6	30.0%	7	4
7	Plant Star	9	400	51	8	15.7%	0	7
8	Grey Star	3	370	22	7	31.8%	13	0
9	Wienco	6	595	115	12	10.4%	0	12
10	Unifruit	4	505	102	13	12.7%	0	8
11	Nai Kwao Otuoh	4	10	20	7	35.0%	1	1
12	Effah	2.5	30	7	2	28.6%	0	7
	Total		**3,896**	**764**	**100**		**40**	**60**

Source : Survey data

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Appendix 2: Farmers' Questionnaire

A) FARM CHARACTERISTICS

1. Name of farm .....
2. Position of respondent .....
3. Location of farm: State name of nearby village or town .....
4. Type of ownership?
   [1] Sole Proprietor [2] Limited Liability [3] Joint Venture
   [4] Other (specify) .....
5. Why did you choose to site your farm in this area? .....
6. What is your overall goal as a commercial pineapple farmer? .....
7. What variety(ies) of pineapple do you cultivate? [1] MD2 [2] Manya Gold
   [3] Cowboy [4] Smooth Cayenne [5] Other (Specify) .....
   (Please indicate as many as possible)
8. For how long have you been growing pineapples here? .....
9. How did you obtain the land?.....
10. How much did pay you per acre? ¢.....
11. Was there any conflict about ownership of the land? [1] Yes [2] No
12. What is the size of your farm (in acres)?.....

B) EMPLOYEE CHARACTERISTICS AND WELFARE

13. [1] How many employees do you have?...How many are [2] male?... [3] Female?...
14. Are all workers full-time employees? [1] Yes [2] No ***(If yes, go to Question 18)***
15. If **no to Question 14**, how many are part-time workers?.....
16. When do you employ part-time workers?.....
17. Is your company registered with the Social Security and National Insurance Trust (SSNIT)? [1] Yes [2] No
18. What arrangements have you made to finance workers' medical care?
    [1] None
    [2] Reimbursement of medical expenses after treatment
    [3] Personal health insurance with private insurance company
    [4] Personal insurance with the National Health Insurance Scheme
    [5] Family insurance with a private Insurance company
19. By what means do your employees come to work?
    [1] Company trucks [2] 'Trotro' [3] Hired transport [4] On foot
20. Apart from salaries, in which other way(s) do you reward your workers?
    [1] Best Worker Awards [2] Special Dinner/Lunch [3] End-of year Party
    [4] Bonuses [5] None [6] Other (specify).....
    (Please indicate as many as possible)
21. What other form of assistance do you have in place for workers?
    [1] None [2] State if there is.....

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22. Has there ever been any conflict between management and any worker(s)?
[1] Yes [2] No ***(If no, go to Question 26)***

23. What caused it? .....

24. What happened afterwards? .....

C) RELATIONSHIP WITH COMMUNITY

25. Do you pay any monies or give any in-kind gifts to the landlord? [1] Yes [2] No
(If No, go to Question 28)

26. If yes, how much do you pay in a year? ¢.....

27. What assistance has your company given to the community?
[1] None [2] Support to school [3] Support to hospital [4] Support to needy child/children
[5] Support for borehole construction [6] Other (specify).....

D) MARKETING

28. Who do you sell your pineapples to?
[1] Exporters [2] Local consumers
[3] Local processors [4] Other (specify).....
(Please indicate as many as possible)

29. What benefits does your company gain from siting your farm in this area?.....

E) CHALLENGES

30. What problems has your company faced since you began operation in this area?
(Please list them in order of importance)

F) RECOMMMENDATIONS

31. What do you think should be done to enable your company improve your level of production, the welfare of your workers and your contribution to the local and national economies etc.?.....

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Appendix 3: Employees' Questionnaire

A) INDIVIDUAL CHARACTERISTICS

1. Name of farm.....
2. Sex of respondent: [1] Male [2] Female
3. Age of respondent in years.....
4. What is your highest level of education?

   [1] None [2] Non-formal [3] Primary [4] J.S.S. / Middle School

   [5] Secondary/Commercial [6] Post Sec. [7] Tertiary
5. Marital status of respondent

   [1] Single [2] Married [3] Separated [4] Divorced [5] Widowed

B) DEPENDENCY

6. Do you have any children? [1] Yes [2] No ***(If No, go to Question 11)***
7. If yes, how many?.....
8. What is the age of [1] the oldest? .....and [2] the youngest?.....
9. How many of your children attend school?.....
10. Who takes care of them at home while you are at work?.....
11. Do you provide financial support to: [1] your father? [2] your mother? [3] your brother(s)? [4] your sister(s) [5] your nephew(s)/niece(s)

    [6] Other (specify) ..... [7] None ***(Tick as many as possible)***

C) JOB SITUATION AND MIGRATION

12. What is your job in the farm?.....
13. For how long have you worked here? .....
14. Before joining this company, what kind of work were you doing?.....
15. Why did you choose to work in the commercial pineapple farm?.....
16. Apart from working in the pineapple farm which other job do you do?.....
17. How far is your place of residence from the farm? (Estimate in kilometres).....
18. Is your place of residence your hometown? [1] Yes [2] No ***(If Yes, go to Quest. 21)***
19. If **no,** what is the name of your hometown? [1] .....

    [2] In which Region is it located?.....
20. If **your hometown is outside Ghana**, which country do you come from?.....

D) EMPLOYEES' HEALTH

21. Have you been ill since you began working in the farm? [1] Yes [2] No

    (If No, to Question 21 go to Question 25)

22. Do you think it was as a result of the nature of your work? [1] Yes [2] No
23. How much did you spend the last time you were treated? ¢.....
24. Who paid for it? [1] Myself [2] the company [3]Other (specify).....
25. Does the farm have any health finance scheme for workers? [1] Yes [2] No
26. Is there a private clinic where all workers receive treatment? [1] Yes [2] No
27. What happens if a worker gets injured on the farm?.....

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E) EXPENDITURE

28. Do you rent a house? [1] Yes [2] No ***(If no, go to 30)***
29. If yes, how much do you pay in a month? ¢.....
30. What assets have you bought since you began working in the pineapple farm?.....
31. How much do you save in a month? State average figure ¢.....

F) WORKER-MANAGEMENT RELATIONSHIP

32. Have you ever had any quarrel, arguments or disagreements with management? [1] Yes [2] No
    (If No, go to Question 35)

33. If yes, what caused it?.....
34. What happened afterwards?.....

35. Are you aware of any body who has been dismissed? [1] Yes [2] No ***(If No, go to Q37)***
36. What do you think caused it?.....

G) BENEFITS AND COSTS OF EMPLOYMMENT

37. Do you contribute to the Social Security Scheme? [1] Yes [2] No
38. Apart from salaries, in which other way(s) does your company reward workers?
    [1] Best Worker Awards [2] Special Dinner/Lunch [3] End-of year Party
    [4] Bonuses [5] None [6] Other (specify).....
    (Indicate as many as possible)

39. How has your employment in this company benefited you and your family?.....

40. What problems have you or your family faced that you think are as a result of your employment?.....

41. What do you think should be done to improve workers' welfare?
    .....

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Appendix 4: Landlords / Community Opinion Leaders' Interview Guide

Name of Settlement.....

A) RELATIONSHIP WITH PINEAPPLE FARMERS

1. Do you receive any monies or in-kind gifts from commercial pineapple farmers? [1] Yes [2] No
2. If **yes**, how much do you receive in a year? ¢.....

3. Before the land was given out to the pineapple farmers, were there other occupants?
   [1] Yes [2] No ***(If no, go to Question 5)***

4. If **yes**, what did you do to compensate them?
   .....

B) **RELATIONSHIP WITH COMMUNITY** (Respondent must be an opinion leader)

5. What assistance has your community received from pineapple farmers operating in this area?
   [1] None [2] Support to school [3] Support to hospital [4] Support to needy child/children
   [5] Support for borehole construction [6] Other (specify).....

6. Before the land was given out to the pineapple farmers, were there other occupants?
   [1] Yes [2] No ***(If no, go to Question 8)***

7. If **yes**, what did the landlord(s) do to compensate the occupants?
   .....

8. What problems has your community faced that you think are as a result of the siting of pineapple farms in this area? (Please list them in order of importance)
   .....

C) RECOMMMENDATIONS

9. What do you think should be done to solve the problem(s) you identified?
   .....