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SMALLHOLDERS AND NONTRADITIONAL EXPORTS UNDER ECONOMIC LIBERALIZATION: THE CASE OF PINEAPPLES IN GHANA

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ABSTRACT Structural adjustment programs (SAP) and market liberalization policies of the past 20 years in Ghana have transformed the agricultural sector in many ways. One marked example is the increase in production of fresh pineapples for European markets. This paper examines the characteristics of three categories of pineapple producers for export: smallholders, nonresident commercial farmers, and large-scale producer-exporters. The smallholders offered exporters little advantage over large plantations and were marginalized. A donor-supported new export company is also examined and interpreted as an institutional solution to overcome the disadvantages faced by the smallholders.

Key Words: Ghana; Nontraditional exports; Smallholders; Liberalization.

INTRODUCTION

In the past twenty years, production of fresh fruits and vegetables for export has increased in several sub-Saharan African countries (Table 1). These commodities are usually referred to as nontraditional export crops, emphasizing the relative recentness of export increase in comparison with increases in traditional export crops such as cocoa, coffee, and cotton. The production of fruits and vegetables in sub-Saharan Africa has been mainly for European markets. The supply sources of fruits and vegetables for European markets has shifted geographically over the past forty years, from the Mediterranean fringe in the 1960s, to eastern and southern Africa after the 1970s, and more recently to western Africa after the 1980s (Barrett & Browne, 1996).

Table 1. Exports of Fruits and Vegetables from Sub-Saharan African Countries (thousand US Dollars).

	1980	1983	1986	1989	1992	1995	1998
South Africa	603,980	438,130	475,900	489,070	845,910	900,560	901,260
Kenya	67,727	88,246	82,055	88,089	105,513	134,761	178,291
Zimbabwe	2,895	2,657	4,273	8,782	10,732	39,247	42,255
Uganda	n.a.	n.a.	n.a.	350	3,008	16,877	17,010
Ghana	1,848	300	1,585	4,383	8,213	11,658	26,838
Gambia	n.a.	n.a.	n.a.	610	2,550	1,367	1,710
Burkina Faso	1,015	2,138	2,599	5,856	7,070	6,021	4,468

Source: FAO (1981; 1984; 1987; 1990; 1993; 1996; 1999).

The increase in the export of fruits and vegetables from sub-Saharan Africa for European markets can be attributed to a number of factors. One is the growing demand for fresh fruits and vegetables by European consumers, especially in the winter months. Others are the relatively short flight times and the historically well-developed flight connections between the two continents. Still another is the price competitiveness of African suppliers whose market position depends on their low cost of production. Recent policy shifts toward more liberalized and market-oriented development strategies in most African countries have also contributed to the growth of the nontraditional export sector. Furthermore, some African governments are keen to diversify their export base in order to remedy their vulnerable economies that are heavily dependent on a few traditional export crops (Jaffee, 1992; Barrett & Browne, 1996; Stevens & Kennan, 2000).

As in other African countries, the export of fruits and vegetables from Ghana has rapidly increased since the mid-1980s (Table 1). The increase coincides with the adoption of structural adjustment programs (SAP) and a series of policy changes toward economic liberalization since 1983. The export agricultural sector of Ghana in the past century has been heavily dependent on cocoa, a traditional export crop. Under the SAP, both the government of Ghana and the international donor communities have encouraged the nontraditional export sector in order to promote diversification of the country's export agriculture.

The purpose of this paper is to examine the role of smallholders in the production of fresh pineapples for export, a leading sector of nontraditional export agriculture in Ghana. In particular, the paper analyzes whether Ghanaian smallholders have any advantage over large-scale producers. Many recent studies have focused on the role of smallholders in the development of nontraditional export crops in Africa (Little & Dolan, 2000; Killick, 2001; Barrett *et al.*, 1999; Barrett & Browne, 1996; Dijkstra, 2001; Freidberg, 1997; Little & Watts, 1994; Kimenyi, 1995). In this growing literature, however, little attention has been paid to the case of Ghana.⁽¹⁾ The present paper aims to fill this gap and to demonstrate both opportunities and constraints the Ghanaian smallholders face in the era of economic liberalization and globalization.

An important finding made by the recent literature on nontraditional export crops in Africa is the growing influence of European supermarket chains on the producing countries. Food retailing in Europe has become increasingly dominated by the supermarket chains. The large supermarkets in many cases do not use wholesale markets but have links with preferred importers who handle their requirements and seek suppliers from around the world. The requirements typically set by the large supermarkets include high and uniform quality, low prices, large quantity of supply, and consistent and timely supply. This often leads to a tendency toward vertical integration and the dominance of large-scale producers in the supplying countries (Barrantos, 2001; Raikes & Gibbon, 2000; Dolan & Humphrey, 2000; Watts, 1994; Barrett *et al.*, 1999). The export pineapple sector in Ghana appears to have followed a similar pattern.

The paper is organized as follows. The next section provides a brief descrip-

tion of pineapple production and export in Ghana. In Sections 2 and 3, some features of three categories of pineapple producers (smallholders, nonresident commercial farmers, and large-scale producer-exporters) are highlighted and the roles they play in the export sector are examined. Section 4 considers the role of a newly established farmer-owned export company.

PINEAPPLE EXPORT IN GHANA

Export of fresh pineapples in Ghana has increased constantly since the mid-1980s. The export volume of fresh pineapple in 1983 was only 57 tons, while in 1999 it exceeded 33 thousand tons (Table 2). Fresh pineapples constitute 15% of the total value of Ghana's nontraditional agricultural exports in 1999. The estimated value of pineapple export from Ghana to European Union countries in 2001 was about 30 million Euros (World Trade Atlas, 2002). Major importing countries are Belgium, Switzerland, France, Italy, Luxembourg, the Netherlands, and the UK.

The rapid increase in pineapple export has been associated with a series of liberalization policies adopted under the SAP. Of particular importance was the gradual removal, beginning in 1986, of foreign exchange controls. By the end of 1992, Ghanaian exporters were free to repatriate all foreign exchange earnings, which they can use for any purpose (Obeng, 1994). In addition, all nontraditional exporters became exempt from export duty and eligible to claim a corporate tax rebate. Such increased incentives among exporters contributed to the increased volume of pineapple export. As of 2000, 57 companies were registered as pineapple exporters, although not all were actually exporting.

In addition to the export market, a sizable domestic market for pineapples exists in Ghana. A number of processing companies are active in producing pineapple juice for urban consumers, and fresh pineapples are readily available on roadsides and in local open markets. The domestic market absorbs a large quantity of pineapples when there is an excess supply or when the produce does not meet export quality. Producers usually prefer to sell their produce to exporters because of the high price offered. Processing companies come next in terms of price offered, and itinerant traders who sell in the local markets offer the lowest price. Nevertheless, the itinerant traders are the ones to whom small-

Table 2. Export of Fresh Pineapples from Ghana, 1978-1999 (tons).

Year	1978	1979	1980	1981	1982	1983	1984	1985
Pineapple Export	48	54	8	10	44	57	650	1,807
Year	1986	1987	1988	1989	1990	1991	1992	1993
Pineapple Export	2,668	4,130	4,191	7,947	9,440	10,674	9,753	13,157
Year	1994	1995	1996	1997	1998	1999		
Pineapple Export	14,954	15,764	27,603	25,124	21,940	33,440		

Source: Obeng (1994) and Ghana Export Promotion Council.

holders have the easiest access.

The production of pineapple for export is geographically concentrated in the peri-urban zones along the coastal savanna near the capital, Accra (Fig. 1). This is due to the proximity of the international airport in Accra and of a major port in Tema. The perishable nature of the produce and underdeveloped transport networks in rural areas are the main reasons for this concentration. In addition, processing companies producing pineapple juice are concentrated in the cities of Accra, Nsawam, and Tema. Furthermore, these cities offer a major domestic market for fresh pineapples. These factors constitute an advantage for the peri-urban regions; the rural population in remote areas has less chance of participating in export pineapple production.

THREE CATEGORIES OF PINEAPPLE PRODUCERS

Producers of fresh pineapples for export in Ghana can be classified into three categories: smallholders, nonresident commercial farmers, and large-scale producer-exporters. Smallholders are the indigenous rural inhabitants who operate their farmland in their own villages. Nonresident commercial farmers are those who reside in cities but lease land from traditional rulers in rural areas for pineapple production. Large-scale producer-exporters are those who have vertically integrated production and export.

A series of fieldwork was conducted to identify the characteristics of the three types of pineapple producers. The first fieldwork in July-August 1998 focused on smallholders, and one village was selected as the focus of an intensive survey. During the subsequent fieldwork in February and August 2000, interviews were conducted with five nonresident commercial farmers and with the managers of eleven producer-exporters. Because no information on the total number of nonresident commercial farmers was available, the selection was based on snowball sampling in which I located some key individuals and asked them to name farmers who would be likely candidates for the study. In selecting the producer-exporters, I took care to include companies with different operational scales. Overall, the main aim of the fieldwork was to obtain qualitative information on the various actors involved in pineapple export. Some characteristics of the three types of producers are summarized below.

I. Smallholders

Production of export pineapples by smallholders was most prominent in the area between Akuapem Hills and Nsawam (Fig. 1). Among the villages located in this area, Odumase was selected as a case study village. There were 46 compound houses and a population of 267 in Odumase at the time of the survey. The total number of farmers⁽²⁾ in Odumase was 96; 87 of them (91%) were interviewed.⁽³⁾ Odumase is not located on the main road, but its distance from the international airport in Accra is only 35 km.

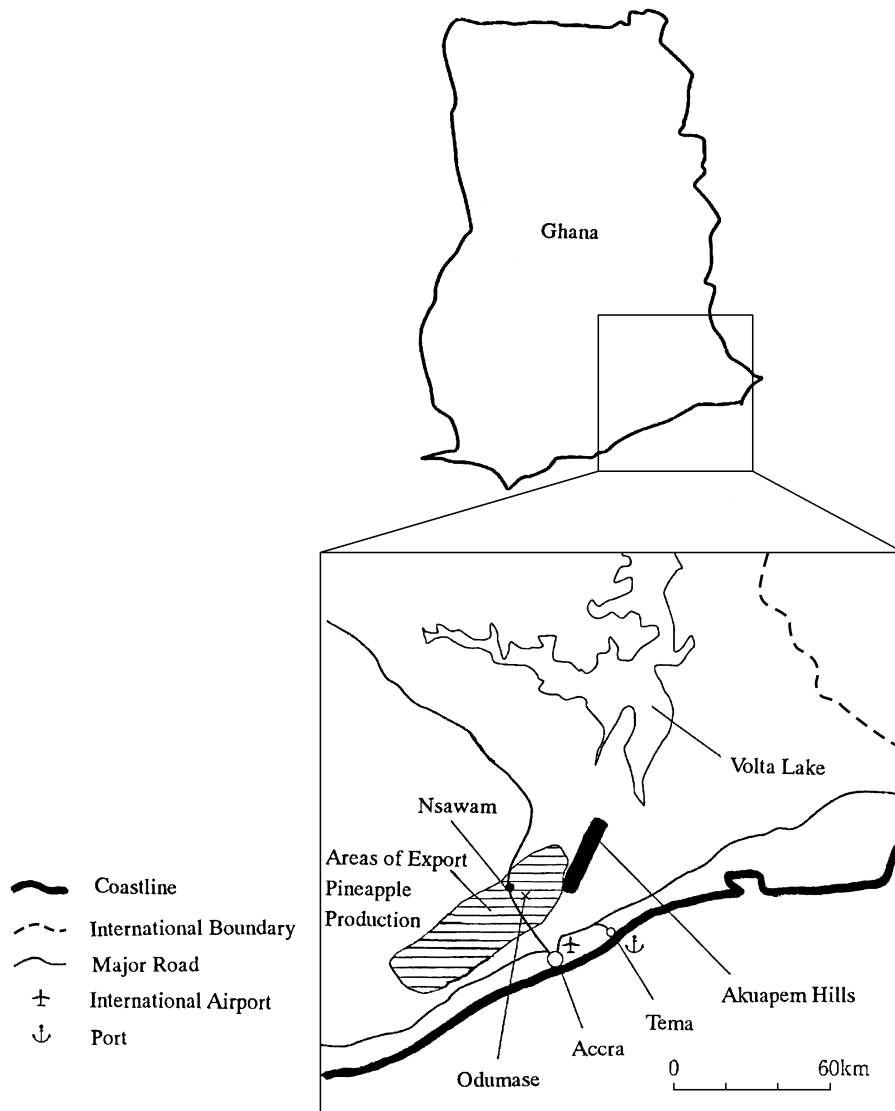


Fig. 1. Areas of Export Pineapple Production in Ghana.

Table 3. Classification of Pineapple Producers by Tenancy Status in Odumase.

	Pineapple Producers		Average
	Number	Percentage	Farm Size (ha)
Landholder-cultivators	23	32	0.73
Landholder-tenants	13	18	2.21
Tenants	25	35	1.18
Others	11	15	0.36
Total	72	100	0.90

Table 4. Number of Pineapple Farms by Tenancy Types in Odumase.

	Number of Farms	Percentage
Own Farms	37	40
Fixed-rent Contracts	36	39
Share Contracts	4	4
Others	16	17
Total	93	100

Among the farmers interviewed, 72 (83%) were producing pineapples, and 48 farmers (55%) were selling the produce to exporters. Within the pineapple producers, male farmers constituted 78%. Most pineapple producers operated on a small scale: the average farm size was 0.9 ha (Table 3). While 40% of pineapple farms were established on farmers' own land or on family land, some farms (39%) were operated under a fixed-rent contract, by which tenants paid predetermined amounts of cash to landlords⁽⁴⁾ (Table 4). The duration of land lease in the contracts ranged from one to five years. The types of labor used in pineapple production included family labor, hired labor, and labor exchange groups (*nnoboa*).⁽⁵⁾

Many smallholders interviewed preferred to sell their produce to exporters because of higher prices. However, dealing with the exporters involved high levels of risk and uncertainty. For example, export pineapples must meet certain quality standards for size, color, weight, and sugar/acid content. Exporters frequently rejected the smallholders' produce because of low quality. In addition, when fruits were becoming mature, within a limited period the smallholders had to search out exporters and negotiate with them to arrange spraying and harvesting.⁽⁶⁾ When supply was abundant, however, few exporters were interested in buying from the smallholders because other supply sources were readily available. If no exporters came to buy the produce, the smallholders had no choice but to sell it to processing companies or to itinerant traders at lower prices. This reduced the profit level of the smallholders. Furthermore, even if the exporters bought from the smallholders, payment occurred after the exporter was reimbursed, which usually took several weeks or even months.⁽⁷⁾ These risks and uncertainty reflected the uneven power relations between smallholders and exporters.

II. Nonresident Commercial Farmers

In addition to the smallholders residing in rural areas, a number of non-resident commercial farmers supplied pineapples to exporters. The farm owners resided in cities but leased land from traditional rulers in rural areas for the purpose of pineapple production. Most of the nonresident commercial farmers interviewed started pineapple production after the late 1980s. The operational scales of the farms ranged from 20 to 150 ha — much larger than those of indigenous smallholders. The land lease contracts between the farm owners and the local traditional rulers ranged from 30 to 50 years. The long lease assured the farm owners of obtaining sufficient returns on the initial investments made in establishing the farms. The farm owners often employed farm managers who resided near the farm to supervise everyday farm work done by wage laborers.

A number of features characterized the relationship between the nonresident commercial farmers and the exporters. First, supplies of pineapples from the commercial farmers to the exporters were based on oral agreements. Written contracts specifying volume, quality, price, and timing of supply were not prepared. Second, the commercial farmers dealt with several exporters as well as local processing companies, thus not relying on one exporter. Third, the farm owners obtained information from the exporters on recommended field practices such as when and how to apply fertilizers and agrochemicals. This information was necessary for the farm owners to ensure that the produce met the requirements set by the European importers. Apart from the recommended timing and method of input applications, however, the farm owners retained independence in making farm management decisions. The exporters did not provide the farm owners with inputs or credits, nor did they intervene in farm management decisions. These features appeared to show that the commercial farmers retained a degree of independence from the exporters. Cases of increased subordination of growers to exporters through contractual relations were not found, as the exporters provided no credit or input to commercial farmers.

III. Producer-exporters

All eleven exporters interviewed had vertically integrated production and export. The majority of exporters started pineapple export after the late 1980s when liberalization policies favored nontraditional export. The export companies initially relied on smallholders and commercial farmers for procuring produce. Within a few years, however, they concluded long-term land lease contracts with traditional rulers and established their own large-scale plantations. By 2000, the procurement of produce via direct production was the primary strategy adopted by most exporters. When there were shortages of supply from their own farms, the exporters sought other supply sources. The preferred sources were other producer-exporters and large-scale commercial farmers, because the two types of farms could supply uniform-quality produce in large quantities. Procurement from smallholders was the last option. Procurement via local open

markets was not an option at the time of survey, although in earlier years some exporters had relied on this method.⁽⁸⁾

The shift toward procurement via direct production and the vertical integration among exporters can be explained by two factors. First is the perishable nature of the produce. Fresh pineapples need to be transported quickly to warehouses and refrigerated in order to avoid damage to quality. Producing and storing pineapples on the exporters' own farms saves the time and cost of transport and reduces the risk of quality damage. Second is the nature of the demand from the European importers. Ghanaian exporters must meet the requirements set by the importers and the large supermarkets in Europe. The typical requirements are consistent supplies of produce of high and standardized quality, in large quantities, delivered in a timely manner. When the exporters rely on multiple sources or local open markets for procurement, the risk of supplying produce of low and variable quality increases. Buying from many sources also increases the risk of not being able to procure quickly the large quantities required. Exporters can reduce these risks by establishing their own large-scale plantations, assuring the required large quantities of supply, and by adopting standardized farming practices, assuring uniform quality of produce.

THE ROLE OF SMALLHOLDERS IN PINEAPPLE EXPORT

Do smallholders have any advantage over these large-scale producers? The present section examines this question from the viewpoint of production cost, labor quality, land market, capital intensity, inputs availability, production information, and consistent bulk supply.

Ghanaian smallholders producing export pineapples appear to hold an advantage over large-scale plantations regarding production cost. An estimate made by Obeng (1994) shows that the production cost per ha for smallholders is 22% less than that for large holders.⁽⁹⁾ This may be attributed to the lower labor cost of smallholders due to their use of family labor.

The literature suggests that smallholders may possess a competitive advantage in the production of nontraditional export crops requiring intensive and skilled labor. For example, export crops such as strawberries and grapes are highly damageable and require careful and skilled treatment at all stages of production. In addition, these crops should be harvested on the basis of assessments of the ripeness of individual pieces of fruit. Smallholders who use family labor have an incentive to perform such intensive and skilled work because they are the residual claimants on the high returns from the labor. Wage laborers working in the large-scale plantations have no such incentive because their wages are fixed irrespective of the skill level and intensiveness of labor performed. Large producers using wage labor thus incur high supervision and enforcement costs in order to assure the quality and intensiveness of labor. Therefore, in crops where the quality and intensiveness of labor are important, smallholders using cheap, self-supervised family labor may experience an advantage over

large-scale plantations (Collins, 1995; Key & Runsten, 1999).

Smallholders producing pineapples in Ghana may not enjoy this advantage. Production of pineapple is not labor intensive in comparison with production of other nontraditional export crops (Jaffee, 1994). It follows a relatively simple production method and does not require highly skilled labor. The timing of ripening can be easily controlled by applying chemicals. This enables the growers to harvest all the crops on a plot at one time, making careful selection of fruits unnecessary. Harvesting can also be done by unskilled labor, as the fruits cannot easily be damaged by ordinary handling. Hence, the smallholders' advantage of performing intensive and skilled labor, found in some nontraditional export crops, does not appear to apply to pineapple production.

Smallholder production may flourish when large-scale land acquisition involves considerable costs or risks for exporters. In a politically unstable country, for example, investors would refrain from obtaining large tracts of land for export crop production because of the risks of political turmoil or of land expropriation by the government. Alternatively, when the cost of acquiring land is too high due to high population density and a resultant scarcity of uncultivated land, establishing large plantations is not economically viable. In such cases, the exporters may turn to indigenous smallholders for the procurement of produce (Glover & Kusterer, 1990).

This again does not apply to the Ghanaian case. The area where production of pineapple is prominent in Ghana lies along the coastal savanna. The coastal savanna in general is not very suitable for agricultural production, and many parts of the area are uncultivated. As a result, traditional rulers who hold land rights in the area are eager to lease out land to investors. The land lease contracts usually guarantee the investors a long-term use of land (30 to 50 years), allowing investors to obtain sufficient return on the initial investment. In addition, since the introduction of SAP in 1983, the government has taken several measures, such as The Land Title Registration Law (1986), to protect investors' property rights (Amanor, 1999). Under these circumstances, the exporters and capitalist farmers face relatively little risk in establishing large-scale farms. This has led, since the late 1980s, to the development of large-scale pineapple plantations and vertical integration.

On the other hand, existing literature points out some cases in which smallholders are disadvantaged vis-à-vis large growers in the production of nontraditional export crops. One such case is the high capital intensity of production. When production of nontraditional export crops requires a large amount of capital investment to purchase farm inputs such as expensive machinery, this may work against smallholders who lack capital or have little access to credit markets (Carter *et al.*, 1993, cited in Collins, 1995). Another case is the unavailability of specialized inputs. Specialized machinery, seeds, fertilizers, and pesticides necessary for the production of certain crops are often unavailable in local markets. When such factor markets are missing, large firms with access to the specialized inputs may have monopoly power in production (Key & Runsten, 1999).

Ghanaian smallholders producing export pineapples are not subject to the above two disadvantages. Small-scale pineapple production does not require a large initial investment, because most farm tasks can be done with manual labor, using simple farm tools. In addition, the smallholders face little difficulty in obtaining the necessary farm inputs. Suckers are readily available on other farmers' fields and can be purchased throughout the year. Because of proximity to the capital, Accra, necessary agrochemicals for pineapple production are easily obtainable. Marketing of farm inputs was liberalized in Ghana in the 1990s, contributing to the timely supply of agrochemicals. Thus, capital intensiveness and the availability of inputs do not pose problems for smallholders.

What poses problems to the Ghanaian smallholders is production information. Pineapples for export must meet the quality standards set by the European importers and supermarkets. There is an information asymmetry between the smallholders and the exporters regarding produce specifications such as shape, color, weight, and sugar/acid content. In addition, the smallholders usually lack knowledge about cultivation techniques (such as timing and frequency of chemical use) to assure the export quality standards of the produce. Information regarding health and safety requirements in the importing countries, specifying which and what quantities of chemicals are permitted in the production process, is also difficult for the smallholders to obtain (Key & Runsten, 1999; Dolan & Humphrey, 2000). The lack of production information works against the smallholders, resulting in frequent rejections of low-quality pineapples by the exporters.

Another disadvantage for the smallholder is the requirement for bulk and consistent supply of produce. The European buyers demand large quantities of produce in a timely manner throughout the year. The supplies of produce must also meet the quality and safety standards. Therefore, the whole production and marketing processes need to be carefully planned to assure the required quality, quantity, and timing of supply. From the exporters' perspective, then, sourcing produce from a large number of smallholders results in greater transport and supervision costs than sourcing from a few large commercial farms or from the exporter-owned plantations. The risk of being unable to procure the required quantities or of delivering produce of variable quality are also raised by sourcing from many smallholders. In addition, timely delivery of a large quantity supply lowers transport costs per unit of weight by reducing vacant cargo space. The smallholders' advantage in production cost may well be offset by these costs and risks associated with outside sourcing from smallholders. To avoid these costs and risks, exporters tend to choose their own plantations as primary sources. Their second choice will be the large commercial farms, to which exporters often give information regarding recommended farming practices. Sourcing from smallholders is the last choice for most exporters.

The above discussions suggest that, apart from lower production cost, Ghanaian smallholders producing export pineapples had little advantage over large-scale plantations. As a result, smallholders were placed in a marginalized position in pineapple export.

A NEW MOVEMENT : A SMALLHOLDER-OWNED EXPORT COMPANY

In 1999, a new export company, Farmapine Ghana Limited, was established with the assistance of the Government of Ghana and the World Bank. The establishment was based on the farmer ownership model (FOM) promoted by the World Bank. By creating farmer ownership of a company through acquisition of shares, the FOM aims to provide smallholders with commercial access to working capital, production inputs, and output markets. In the case of Farmapine, 80% of the shares of the company were acquired by five smallholder cooperatives with the financial assistance of the World Bank. The five cooperatives had 178 members, and the aggregate acreage of the members' pineapple farms was about 150 ha. The company sourced pineapples from the members' farms, providing a guaranteed market for smallholders.

In addition to purchasing the produce from the members of the cooperatives, Farmapine provided them with agricultural inputs, credits, and technical assistance. It distributed agrochemicals to the members and occasionally gave them credits to employ necessary farm labor. The company also employed three agronomists who regularly visited the members of the cooperatives and instructed them on a specified cultivation practice to assure the export standards of pineapples. In addition, the company scheduled harvests of the members' farms to meet the timing requirements for export. The costs of agrochemicals and the amount of credit provided to farmers were deducted from the value of the harvest when the company made payments to them.

Drawing from the discussion in the previous section, the arrangements made by the new company can be seen as an institutional solution to overcome the disadvantages faced by the smallholders. As discussed, the lack of production information necessary to meet the export requirements was an important factor that puts the smallholders in a disadvantageous position. The institutional arrangements made by the new company overcame this disadvantage. Regular visits by and instruction from agronomists enabled the smallholders to obtain information about farming practices that ensured pineapples of the high quality required for export. The adoption of uniform farming practices among the members of the cooperatives also avoided variability in pineapple quality. Thus, the institutional arrangements made by Farmapine enabled cooperative members to produce high- and uniform-quality produce suitable for export market.

In addition, Farmapine was successful in overcoming another disadvantage faced by smallholders — the inability to secure bulk and consistent supply. Because the company planned production schedules of the 178 member farms and distributed the harvesting time throughout the year, bulk and consistent supply of produce became possible. The initial success of the new institutional arrangements was obvious, as the company exported over 3,500 tons in 2000, making it that year's second-largest pineapple exporter. Thus, the institutional arrangements made by the company have the potential of overcoming smallholders' disadvantages and of assuring their access to export markets.

On the other hand, for this company to be competitive in future, two prob-

lems inherent in this type of institutional arrangement need to be addressed. One is the cost associated with the arrangement. The costs of inputs distribution, of agronomists' regular visits to farmers, of procurement from a large number of farms, and of administration that deals with many farmers may reduce the profit margin of the company, resulting in a lower return for the farmers. In August 2000, for example, the price paid by Farmapine to farmers was 10 to 25% lower than the price paid by other exporters.⁽¹⁰⁾ In the long run, a lower pricing is likely to reduce farmer incentive to sell produce to Farmapine.

Another is the moral hazard on the part of the farmers. Because of the large number of farmers involved, it is difficult for the company to completely enforce farmers' compliance with the recommended farming practices. For example, farmers may divert part of the agrochemicals and fertilizers supplied by the company onto fields growing other crops. They may also use the credits supplied to them for purposes other than pineapple production. These practices may lead to sub-optimal farming practices that affect the quality of produce, resulting in inefficient use of company resources.

CONCLUSION

The aim of this paper has been to analyze the role of Ghanaian smallholders in pineapple production for export. Although smallholders are not excluded from the production of export pineapples, only those residing in peri-urban areas can participate in production, because of the perishable nature of the produce and the underdevelopment of transport networks. In addition, smallholder production involved high levels of risks and uncertainty concerning marketing risk, rejection of produce, and late- and non-payment by exporters. These risks and uncertainty reflected the uneven power relations between smallholders and exporters.

In addition, Ghanaian smallholders producing export pineapples have little advantage vis-à-vis the large-scale plantations that have been increasingly established since the late 1980s. The disadvantages of smallholders stem mainly from the requirements set by the European importers for high and uniform quality and bulk, consistent, and timely supply. As a result, exporters increasingly rely on their own plantations and large-scale commercial farmers as the supply sources, putting smallholders in a marginalized position in pineapple export.

Establishment of a new government- and donor-supported export company owned by smallholder cooperatives can be interpreted as an attempt to overcome the disadvantages faced by the smallholders. Through a series of institutional arrangements, the company was successful in supplying high- and uniform-quality produce in large quantities, resulting in an increase of smallholder pineapple production. However, problems inherent in this type of institutional arrangement, such as high costs and moral hazard, need to be addressed for this company to be competitive in future.

The case of pineapples in Ghana illustrates that smallholders may be put in a

disadvantageous position vis-à-vis large-scale plantations in the process of rapid development of nontraditional exports under economic liberalization. An irony is that the government and the World Bank, which promoted non-intervention and liberalization policies, at the same time intervened to assist smallholder production that had been marginalized in the liberalization era.

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NOTES

- (1) An exception is Obeng (1994).
- (2) The term "farmers" in this study refers to those who operate farmland, including tenants.
- (3) Interviews with farmers were made with the assistance of two Odumase residents.
- (4) This is a major difference from smallholder cocoa production in which share contract is the dominant form of tenancy arrangement (Takane, 2000; Takane, 2002).
- (5) *Nnobia* groups have clear memberships, usually two to five people, and the labor is exchanged in rotation. No payment is made for the labor. *Nnobia* is used more frequently by poorer farmers who lack cash to employ wage labor.
- (6) Exporters bring their own workers to smallholders' farm and harvest pineapples that meet export standards. A week before harvesting, exporters spray the farm with chemicals for ripening.
- (7) In some cases, farmers were never paid because some exporters stopped its operation before making payments to farmers.
- (8) Interview with the officials of the Agricultural Department at the Ghana Export Promotion Council, February 2000.
- (9) She also suggests that the yield per ha on small-scale farms is generally higher than that on large-scale farms. For the Philippines, however, Hayami *et al.* (1988) argued that no significant difference in yield per hectare existed between smallholders and large plantations.
- (10) The price paid by Farmapine was still higher than the prices paid by the local processors and by itinerant traders.

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