

Case study of Jamaican Banana Export Farmers: Threats, Opportunities and Survival

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The numbers of Jamaican farmers exporting bananas and the quantities they export have declined over the years. A random survey of 45 farmers in May 2008 revealed that the key factors contributing to their exit from the export market are high input prices, export quality requirements, and uncertainty about the operations of the government-run exporting board. Many of the farmers want more transparency between them and the board handling their exports. Because a majority (57%) of farmers surveyed did not belong to a farmer's organization, they lacked the capability to exert influence with cohesive group efforts and stronger bargaining power. A significant number (46%) of the surveyed farmers did not own the land on which they farm. Supplementary data collected from face-to-face interviews further reveal that the land tenure issue impacted overall perceived risk of farm investment, and the ability of many farmers' to access commercial loans and other public assistance programs.

INTRODUCTION

Agriculture employs a significant number of people in Caribbean countries and the sector provides considerable income opportunities for the unemployed. In Jamaica, for example, agricultural production is a labor intensive industry which absorbs 21% of the island's labor force (<http://www.caricom.org>). The banana industry alone employs more than 10,000 people and thousands of Jamaican small-scale banana farmers earn their living from the industry and their production accounts for up to 50% of the Windward Islands' total export revenue (Wiltshire, 2004). Overall, Jamaica's banana industry provides employment and serves the island as a major foreign exchange earner. On a socioeconomic level, banana farming provides many Jamaican families and their rural communities an escape from poverty.

However, over the years, there has been increased competition from the Latin American Dollar producers and drastic export rules changes have led to a decline in Jamaican banana export, production, export earnings, and farmers. First, the guaranteed market access to the European market under the Lome IV convention Protocol 5, Article 1 has been threatened by

Latin American banana producing countries, which are backed by large multinational U.S. companies such as Dole Food Company and Chiquita. These countries have effectively lobbied the World Trade Organization (WTO) for the removal of preferential access for the Caribbean bananas to the European Union, charging unfair trade practices. Secondly, these Latin American Dollar producers have the economies of scale to produce banana at a much lower cost than Jamaica and the other Caribbean countries. All these factors have significantly affected and threatened the survival of the banana industry in the Caribbean, and Jamaica in particular.

The purpose of this study is to examine and analyze the socioeconomic issues facing Jamaican banana export farmers and to investigate the challenges facing them in the near future. More importantly, the study seeks to provide policy makers information that might inform their decisions and benefit the industry's economic agents in their transition.

BANANA INDUSTRY

Globally, banana is the fourth most important crop in terms of food value (Fonsah 2003). This crop is the world's most exported fresh fruit in terms of volume and value (Arias et al, 2003). Banana is also an important source of earning foreign exchange in many parts of the world such as Africa, Central America, and the Caribbean. World banana production has been increasing steadily over the past twenty years, rising from 42.4 million tons in 1986 to 72.4 million tons in 2005 (FAOSTATS 2006). That is about a 58% increase in total world production. Latin America is the world's leading producer of bananas with about 57.6 million tons per year (www.faostat.fao.com). On the other hand, the Caribbean banana production has shown little growth over the same period, with only a modest 11% increase. Its best yearly production was 1.9 million tons in 2004. Since the early 1800s, the Caribbean region replaced its export cash crop, sugar with banana when the sugar industry started to decline. This replacement was considered beneficial for the region as bananas could be grown on small plots of land; also, bananas thrived well in the tropical climate and contributed to the rise of rural incomes (Flambert, 1997).

Producers of banana on an international level produce this fruit for both domestic and export markets. These two market segments are treated differently because each has specific needs. The export market has special economic and technological requirements because the destination markets (western countries) have stringent quality requirements. Usually, there are producers in developing countries who produce solely for the export market while other subsistence farmers produce for the local market. The fruits that are rejected for the intended export markets are sold on the local market as staples, which in turn further depress the local market prices and incomes of those farmers. It is impossible to assess the total volume of bananas production in the world annually as there are many un-marketed production and non-market sales transactions in many countries. It is estimated that the average world production per annum from 1998 to 2000 was 92 million tons (Arias et al, 2003). This high production can be attributed to the technological progress and changes in world trade that helped to remove barriers to trade, and thereby creating a world community of bilateral and multilateral trades through organizations such as WTO, the General Agreement on Tariffs and Trade (GATT), and the creation of the European Common Market in 1993 (Arias et al, 2003).

Caribbean Banana

Banana is one of the most important export crops for the Caribbean areas of Jamaica, Suriname, Dominica Republic and the Windward Island states (St. Lucia, St. Vincent, St. Kitts-Nevis, and Grenada). For example, St. Lucia's banana accounts for almost 90% of its agricultural export earnings and 50% of employment for its workforce (Arias et al, 2003; Lung, 1997; Bryan 1997). For many of these Caribbean countries, banana is the only or main source of foreign exchange earnings. Ierley (2002) states that banana is the livelihood of a substantial number of residents in the Caribbean, and the lack of export returns would have negative economic impact on the islands. Banana farming has helped many Caribbean residents; particularly, the rural residents can live as middle-income citizens in low income countries.

For instance, Jamaica and Dominica Republic produce banana on small plots of land and rely heavily on family labor. This is the only cash crop for many in these regions because it is easy to cultivate on the hilly terrain common to these areas. Lung (1997) stated that the banana industry in these regions provides employment for those who otherwise might not be able to acquire employment elsewhere. Therefore, this industry serves many island residents as a source of economic refuge and security, or as an escape from poverty. These reports highlight the importance of the banana industry to this region. Arias et al (2003) support this argument by stating that "the small scale banana production in the Windward Islands and Jamaica relative to neighboring Dollar banana countries, gives the industry a key role in the preservation of the social and economic fabric of these islands".

One of the challenges facing the Caribbean region is higher production cost (per ton) relative to Latin American competitors. Jamaica's cost of production is at least 40% higher than that of the Latin American producers; the rest of the Caribbean region is in a similar or worse position. However, the region's banana producers are currently seeking to tap into new unexploited market segments like organic production as an avenue to stay in the industry. Moreover, it has been reported that the U.K. market prefers the size and taste of the Caribbean bananas (Arias et al, 2003). Even though organic bananas cost more due to the special attention they require, Caribbean banana producers hope their fruit will appeal to the special segment of the market that is willing to pay a premium.

Nevertheless, reports from the World Banana Economy prepared for the FAO 2003 suggested that the future of the small scale banana farmers in the Caribbean is unfavorable. The reason for this assessment is as follows:

- Inability to achieve significant economies of scale.
- The growth of supermarket chains that is more likely to import banana from Dollar producers because of their competitive prices.
- The persistent erosion on the region's preferential market access to the E.U.

Currently, the major Latin American banana suppliers to the E.U. are Costa Rica, Ecuador, Colombia, Panama, and Honduras. The other smaller suppliers are Cote d'Ivoire, Cameroon, St Lucia, Jamaica, Belize, St Vincent, and Dominica.

Jamaican Banana

Although the demand for banana on the world market has continued to rise, Jamaican banana production and exports have steadily declined throughout the last decade. According to a regional 2003 report by the National Economic Research Association (NERA), factors such as the weather, cost of agricultural inputs, dominance of the E.U. market by the Dollar Producers, the inability to achieve economies of scale and produce at a lower cost, as well as change in the

E.U. banana regime, have all contributed to the decline of production and market share. Some have suggested going organic as a new option to regaining market share (Addot, 2007). Another factor that has affected Jamaican banana exporters is the requirement for farm certification, as GAP (Good Agricultural Practice) certification, which are standards and practices designed to ensure environmental, economic and social sustainability of farm processes, which in turn, aims to promote safe and quality agricultural products (Good Agricultural Practices; FAO, 2008). All banana farmers in Jamaica are encouraged to have their farms undergo the certification processes. Two of such certifications are the Jamaican Banana Board Certification and the Good Agricultural Practice Certification (GAP). Since banana represented as much as 35% of total export for Jamaica (Grossman, 1998), there is a great concern about the economic future of the industry, and potential impact on farmers in the industry, both export and non-exporters.

Although many of the factors precipitating the Jamaican banana industry decline are obvious, there are hardly any studies that investigate, explain and analyze the problems from the farmers' perspective. This survey research provided a first study of Jamaican export banana farmers in an effort to understand the problems and issues facing them and gain insight into their perspective on survival.

METHODOLOGY

The survey of Jamaican export-banana farmers was conducted in Jamaica in the parishes of Portland and St. Mary. The randomly selected exporting farmers were 30 from Portland and 15 from St. Mary. The survey questionnaire was administered by trained numerators from the Jamaican Banana Board. The initial questionnaire was developed based on the information collected from earlier strategy reports discussing the weaknesses and threats to the industry (European Commission, 2002). The questionnaire was further refined by researchers at the University of Maryland Eastern Shore, the University of the West Indies (Mona) and the Banana Board's Agricultural Extension personnel in Jamaica. The final survey questionnaire had four sections: The demographic/socioeconomic information, farm information (usage of agricultural inputs/equipment), export market participation, and government agencies experiences.

RESULTS

The demographic characteristics of the Jamaican export banana farmers who participated in the study are summarized in Table 1. A total of forty-five (45) banana exporting farmers participated in the study. The majority of the respondents were male 34 (75%), and 93% of them were between the ages of 31 and 60. This is perhaps due to the strenuous nature of banana farming and the high cost of labor and other inputs; undoubtedly, farm owners are constrained to provide increasing amounts of the labor themselves.

TABLE 1
DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Variable	Category	Exporters N=45 Count (%)
Gender	Male	34(75.6)
	Female	11(24.4)
Respondents Age	20 and under	1(2.2)
	21-30	2(4.4)
	31-40	13(28.9)
	41-50	16(35.6)
	51-60	9(20)
	>60	4(8.9)
Highest Level of Education	Grade School	6(13.3)
	Trade/Vocational School	1(2.2)
	Secondary School	23(51.1)
	High School	7(15.6)
	A-level	0(0)
	College/University	8(17.8)
Main Occupation - Farming	Yes	36(80)
	No	9(20)

The taped face-to-face interviews with few farmers support the growing importance of family labor. Also, the absence of women and younger people in banana farming shows that other labor market opportunities available, for instance, in the hospitality industries, perhaps provide better employment for women and younger men than banana farming/exporting.

About half of the respondents (51%) had secondary school education, while those with college/university education were the next most numerous (17%). Clearly, those with trade/vocational school training were less represented because they had better labor market opportunities elsewhere. The majority of the respondents (80%) did indicate that farming was their main occupation. However, there was a minority (20%) who stated that they had other occupations like catering and teaching. These were occupations that most likely provided them the flexibility and time compatible with farm activities.

Overall, given the rising cost of farm inputs and declining farm revenue, it is likely that the female representation in the Jamaican banana farming industry will continue to decline over time. The face-to-face interview with one female farm operator seems to support the fact that the rising input costs and the strenuous nature of banana farm work pose special challenges to female farmers. While these women might enjoy being closer to the land and appreciate the flexibility that farm work provides them to juggle homemaking and childcare chores, the future outlook of their ability to remain in the industry is bleak. Also, it is likely that as the current farmers age and retire, the overall population will decline, and this decline will depress the banana export industry further.

The survey data highlighted certain factors that affected the production and/or export of bananas during the 2006 and 2007 banana season (Table 2). Curiously, more important than the price of farm inputs and the effects of drought, the factor that was identified as a “Very Serious Problem” (VSP) by exporters was the lack of access to information. Eighty-six percent (86%) of exporters indicated that this was their main problem. This suggests that the farmers perceive that the access to information through or from the extension services of the Jamaican Banana Board was a very serious threat to their survival.

TABLE 2
DIFFICULTIES EXPERIENCED WITH PRODUCTION INPUT
(PAST 2 YEARS)

Variable	Exporters				Mean(RK) (SDT)
	NP	MP	SP	VSP	
	Count (%)				
Cost of Fertilizer	7 (13.3)	8 (17.8)	29 (66.7)	1 (2.2)	2.58(6) (0.75)
Cost of farming equipment	8 (18.2)	15 (34.1)	10 (22.7)	11 (25)	2.55(7) (1.06)
Availability of Loans/Financing	8 (19.5)	7 (17.1)	15 (36.6)	11 (26.8)	2.71(3) (1.08)
Cost of Labor	22 (50)	13 (29.5)	5 (11.4)	4 (9.1)	1.8(9) (0.98)
Cost of Pesticides	10 (24.4)	14 (34.1)	16 (39)	1 (2.4)	2.2(8) (0.84)
Access to Information	0 (0)	2 (4.8)	4 (9.5)	35 (85.7)	3.81(1) (0.5)
Effects of Hurricane & Droughts	0 (0)	1 (2.2)	42 (93.3)	2 (4.4)	3.02(2) (0.26)
Transportation	16 (37.2)	5 (11.6)	2 (4.7)	20 (46.5)	2.6(5) (1.4)
Export Standards	15 (34.1)	5 (11.4)	3 (6.8)	20 (46.5)	2.68(4) (1.37)

Scale Key: Not a Problem (NP), Moderate Problem (MP), Serious Problem(SP), Very Serious Problem(VSP)
 Notes: Means and STD were computed by assigning NP=1, MP=2, SP=3, VSP=4. RK-Ranking

Other problems that may influence farmers' access to information are the low levels of education, coupled with low computer ownership and usage. Among these farmers, a limited number (33%) had beyond a secondary level education. This may mean that information and training to offered the farmers should be simplified and provided though other avenues, like radio or during meetings.

The second problem of importance was the effect of hurricanes and droughts (3.02). Although no one has control over natural disasters and their occurrence, the interviews revealed that many farmers were concerned about the government's response and assistance. In 2007, Hurricane Dean disrupted banana export in Jamaica for more than six months, and the government's response was blamed for the growing pessimism among export farmers.

The third problem was the availability of loans/equipment (2.71). Although extension agents have informed farmers about the aids available to them, it appears that these aids may not be enough to adequately fund all their financial needs. Some farmers during the interviews expressed difficulty qualifying for conventional loans or support from EU sponsored programs. Some of the difficulties were related to the lack of the necessary documentation (land ownership and tax records, mostly). In the short term, the interviews showed that farmers needed financial assistance most.

The fourth problem, the export standard (2.68), was almost a "serious problem" since these standards are imposed on the farmers by the European markets. Farmers who can't meet the standard will have their bananas rejected for export. Other concerns of lesser importance are transportation (2.60), cost of fertilizer (2.58), cost of farming equipment (2.55), cost of pesticides

(2.20) and others. These input-related concerns underscore the reason why more farmers find the export standard hard to attain. Some farmers during the interviews expressed concerns about pest control and indicated that they would like the Jamaican Agricultural Department or the Banana Board to conduct seasonal pest control exercises. The call for the government to provide more financial assistance and undertake pest control activities highlight the impact of rising production costs.

Labor cost was not rated a serious problem as expected (1.8) because many farmers are now providing the labor themselves rather than contracting labor. One female respondent during the interviews mentioned that while her male counterparts provided more labor services she couldn't, given her other maternal responsibilities. Another interview respondent estimated that many exporter farmers tend to keep about two to three full-time employees to assist with the day-to-day operations of the farm, if there was reasonable expectation that the Banana Board will operate and export their fruits.

Given the complexity of the challenges facing Jamaican banana export farmers, it was expected that many farmers will seek solutions through group cooperation and collaboration. Moreover, farmers' groups or organizations are good sources of accessing information, bargaining for lower prices, promoting favorable government action, and mobilizing resources as well as sharing ideas. However, the survey showed lower than expected farmers' participation in six available groups/organizations, the Jamaican Agricultural Society (47%), Rural Agricultural Development Association (17.6%), Banana Export Company (7%), Portland Fair Trade (5.8%), All Island Banana Growers Association (5.8%), Fair Trade Crop (5.8%) and others. Since the participation in farmers' organizations was lower than expected, there was interest to examine the farmers' sources of information (Table 3).

The results showed that banana export farmers (89%) in Jamaica rely mainly on the Agricultural Extension Service for information concerning bananas. This is because extension agents conduct weekly farm visits and workshops for farmers to introduce new techniques and methods. They also act as a direct link between farmers and government organizations. There was some reliance on other farmers (53%), radio (42%), newspapers (24%) and other sources.

TABLE 3
FARMERS' SOURCE FOR BANANA RELATED INFORMATION

Categories	Exporters (n=45) Count (%)
Agricultural Extension	40(89)
Other Farmers	24(53.3)
Newspapers	11(24.4)
Banks	1(2.2)
Radio	19(42.2)
Other Sources	10(22.2)

The results highlight the importance of the government's role to the survival of Jamaican banana farmers. In terms of the specifics and the suggested focus for government actions (Table 4), farmers top three suggestions included, subsidized farm inputs (3.35), providing alternative uses of banana (3.44), and export assistance (3.38).

First, subsidies would offset the rising cost of fertilizers, pesticides, and farming equipment such as a mist blower which is widely used by farmers. Second, alternative uses of banana would provide a local market opportunity for banana produce rejected by the export market and reduce the market risks when banana exports are disrupted due to hurricanes. During the interviews and visit to a local banana chip factory, there seems to be increasing attempts by the government to encourage and foster the development of such industries and markets.

TABLE 4
SUGGESTIONED FOCUS FOR GOVERNMENT/EU ASSISTANCE

Variable	Exporters				Mean(RK) (SDT)
	NIM	SIM	IM	EIM	
	Count (%)				
Farming Info & Techniques	2 (4.4)	0 (0)	23 (51.1)	20 (44.4)	3.364(4) (0.71)
Export Assistance	1 (2.2)	1 (2.2)	23 (51.1)	20 (44.4)	3.38(3) (0.65)
Subsidized Farm Inputs	1 (2.3)	1 (2.3)	13 (29.5)	29 (65.90)	3.59(1) (0.65)
Transportation	1 (2.2)	2 (4.4)	31 (69.9)	11 (24.4)	3.16(7) (0.6)
Alternative Uses	2 (4.4)	0 (0)	19 (42.2)	24 (53.3)	3.44(2) (0.72)
Access to Financing/Loans	2 (4.4)	5 (11.1)	23 (51.1)	15 (33.3)	3.13(8) (0.78)
Access to Land	9 (20.5)	12 (27.3)	15 (34.1)	8 (18.2)	2.5(9) (1.02)
Innovation in Banana Production	1 (2.2)	3 (6.7)	24 (53.3)	17 (37.8)	3.27(6) (0.68)
Scientific Research	2 (4.5)	0 (0)	22 (50)	20 (45.5)	3.361(5) (0.71)
Other Interest	4 (50)	0 (0)	3 (37.5)	1 (12.5)	2.12(10) (1.25)

Code: Not Important(NIM), Somewhat Important(SIM), Important(IM), Extremely Important(EIM)
Notes: Mean and STD are computed by assigning NIM=1, SIM=2, IM=3, EIM=4. Ranking - RK

Traditionally, bananas are consumed as a ripe fruit, boiled as a starch, processed into chips or distilled into liquor. Greater alternative uses will expand the local market for bananas and increase demand. Beyond the chip industry, developing alternative uses and processing plants to produce new and innovative products, similar to what U.S. has done with Soybeans, will serve the ailing industry in the long term. Such developments that target the domestic market initially, besides providing employment opportunities for many rural families, will stimulate local demand, job and economic growth. Both in the short and long terms, government and private funded ventures are necessary for the development of these products and markets, which will mitigate the risks associated to the export market.

Other areas, such as farming techniques and farm information (3.36), scientific research (3.36), innovation in banana production (3.27) and others factors were relatively important. But given that relatively high cost of Jamaican banana production and underinvestment, compared to

the South American Dollar Banana producers, it's very unlikely that these export market directed efforts will ensure the survival of these farmers. One farmer in a face-to-face interview stated that on average, it cost, in Jamaica, about US \$8.50 per box of banana from land preparation to harvesting, while for the Dollar producers it costs only US. \$4.50. So, these export market directed improvements and suggestions might not achieve the desired effects in the short term, as those directed toward the local market.

CONCLUSIONS

The problems faced by the Jamaican banana export farmers are numerous, both short and long term. To list a few, the short term problems include the access to information and transparency of the Jamaican Banana Board, the minimal participation of farmers in organizations that can contribute to their survival, and the high cost of farm inputs. The long term problems include the eventual and complete loss of preferential access to the EU market, the growing dominance of the Latin American Dollar Banana producers, the land tenure/ownership issues of significant number of farmers, and the lack of new and innovative alternative uses of banana in the local market.

The short term problems can be more effectively addressed through government involvement to increase enrollment and involvement in farmers' organizations. This involvement will give extension agents greater access and understanding of farmers needs and help in the dissemination of government recommendations and reports. Also, given the importance of radio as a secondary source of banana related information, the Jamaican banana authorities should consider the increased use of radio as reliable, convenient, accessible and quick way of relaying information. One advantage of radio is the reduced chances of human errors and delays in transmission. And this avenue will circumvent the problem of low level of education, computer ownership and use among farmers. Among the long term problems, it is more likely that the WTO opposition to Caribbean banana preferential market access to the European market will continue unabated, and the Latin American Dollar Banana producers will continue to make substantial export market gains. To illustrate the competitive disadvantages of Caribbean banana producers relative to their Latin American counterparts, an NERA report shows the following:

	Small farm holdings Caribbean & Windward Islands	Plantations (Latin America)
Cultivated Area	Land hilly or mountainous. Limited land availability	Large flat plains. Wide land availability
Soil conditions	Poor soil conditions and low yields (not more than 10 tons per acre)	Rich soil and high yields (18-24 tons per acre)
Farm Ownership	Majority are independent small farmers	Largely plantation agriculture, often owned by multinationals, and vertically integrated
Labor Cost and Working Conditions	Higher wages than in Latin America	Wage rates low, lower social conditions of workers
Farm Input Cost	Unit costs of inputs much higher due to smaller volumes and varying soil types	Lower unit costs of inputs due to high volume. Lower fob price due to lower market wages, low social benefits and economies of scale
Transportation Cost (export)	Shipping costs generally higher: smaller volumes, more port calls	Low shipping costs due to high volumes

Source: Adopted from NERA 2003 report.

These comparisons show that competitively, both in the long and short term, Jamaican banana farmers have few options for survival in the export market. But the domestic market has many unexplored opportunities. Apart from the external competition, hurricanes and droughts will remain a serious challenge, including the rising costs of farm inputs. Since a majority of farmers did not own their land (51%), the issues of legitimate ownership will continue affect farmers' risk perceptions, hence investment and the ability to access government assistance. This long term problem of land tenure will require political will and finesse to navigate. Overall, the research reveals that the long term survivals of Jamaican banana export farmers depend on their transition and absorption into domestic market through the development of new value-added products. Their continued prospects in the export market are grim but not impossible if the EU market and taste for Caribbean organic banana develops quickly and favorably.

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