

Strengthening the banana value chain through the growth of inclusive markets

Analysis of U.S. Market for Organic and Fair-trade Bananas from the Dominican Republic

PROJECT No. UNJP/DOM/013/SPA

Final Technical Report

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The opinions and views recorded herein are those of the authors who hereby take responsibility for any errors or omissions in this report.

Revised Technical Report: Analysis of U.S. Market for Organic and Fair-trade Bananas from the Dominican Republic

EXECUTIVE SUMMARY

Background and Terms of Reference¹

This exercise was undertaken to evaluate the United States (U.S.) market for organic and fair-trade bananas and to assess the opportunities for increased supply to the United States of these types of fresh bananas from the Dominican Republic, influenced by perceived changes in the global banana market. Two main components were envisaged, namely:

- 1) A buyer's survey aimed at formulating proposals on how to improve existing business linkages and develop new commercial opportunities
- 2) The development of a U.S. market strategy for organic and fair-trade bananas from the Dominican Republic, including the most appropriate and viable certification and branding strategies

Global Overview of the Banana Market

The economic importance of the banana industry encompasses the generation of export earnings, and the employment of hundreds of thousands of people in Latin America, the Caribbean, Southeast Asia, and West Africa and also thousands in the distribution networks and supermarkets worldwide. India is the largest world producer of fresh bananas, with the production of 26 million metric tonnes (MMT) in 2008, or 28 % of the global production. Other large producers are the Philippines (9.2%), China (8.8%), Brazil (7.4%), and Ecuador (7.1%). Of these, only Ecuador and the Philippines are major exporting countries. Other leading exporting countries are Costa Rica, Colombia, and Guatemala. Together, the main exporting countries accounted for approximately 82% of the global banana exports in 2008. The Latin American region is the world's top supplier of fresh bananas, supplying almost 80% of the gross fresh banana exports in 2008. Exports from the Caribbean have been steadily decreasing, from 204,000

¹ See the Annex for the detailed terms of reference and related specific tasks.

tonnes in 1998 to about 75,000 tonnes in 2008 (a decline in market share from 1.8% to 0.5%). Among other things, this has been attributed to increased competition due the loss of preferential treatment after the liberalization of the European Union (EU) market.

The world's fresh banana market is characterized as an oligopolistic market, dominated by a few multinational companies (MNCs) engaged in the purchase, transport, and marketing of the fruit. These companies are integrated vertically: they own or contract plantations, own sea transport and ripening facilities, and have their own distribution networks in consuming countries. This gives them considerable economies of scale and market power in selling bananas to the consuming countries. The world's three largest producers and marketers of fresh bananas are Dole Food Company, Chiquita Brands International, and Del Monte Fresh Produce. Each of these companies owns banana plantations in Central and South America, along with plantations in other banana-producing regions in the world.

The U.S. Banana Market

The U.S. banana market is free of tariff or quantitative import restrictions, making it a very competitive market. In 2000, total shipments of bananas to the United States were valued at \$1.02 billion (all currency is in U.S. dollars), representing 32% of the total value of fresh fruit imports that year. By 2010, the import value of fresh bananas had risen to \$1.64 billion, a 61% increase over the year 2000. This was due mainly to the increase in the unit price of the fruit because of the weak U.S. dollar. The total supply of fresh bananas remained relatively flat at around 4.0 MMT.

The main suppliers to the U.S. market are Guatemala, Ecuador, Costa Rica, Colombia, and Honduras. In 2010, these five countries shipped an estimated 3.9 MMT of fresh bananas to the United States, accounting for 94% of the total U.S. banana imports. The main conventional banana brands marketed in the United States are Dole, Chiquita, Del Monte, Turbana (Uniban), and Bonita (Exportadora Nobao). In general, volumes are highest during the early months of the year and lowest during the latter months of the year, a pattern that reflects the supply situation in South America.

The United States is the largest single-country market for organic food products. Examined by food categories, the top three organic food sellers in 2009 were Fruits and Vegetables (38%), Dairy (15%), and Breads and Grains (11%). Industry sources estimated the U.S. market for organic bananas in 2010 to be about 123,450 tonnes (6,789,750 boxes), or 3% of the total volume of fresh banana imports. With a national average price of \$23.79 per box at the wholesale level and a retail price of \$1.74 per kilogram (kg) in 2010, the organic banana industry was worth about \$161.5 million and \$214 million at the wholesale and retail levels, respectively. Similar sources have reported that organic bananas represent one of the fastest growing commodities among organic produce, with demand outstripping supply. Ecuador, Colombia, and Peru are among the main suppliers of organic bananas to the United States. Costa Rica, the Dominican Republic, and Mexico are among other supplying countries. Dole is the leading marketer of organic bananas in the United States. Other major companies involved in the trade are Fresh Del Monte and Daabon Organics USA.

Fair-trade bananas were introduced in the U.S. market in 2004, with quantities totaling 3,738 tonnes. Initially, sales remained relatively flat, at around 3,000 tonnes, up until 2007. In 2008, imports skyrocketed, reaching 11,316 tonnes, an increase of 244% over the previous year. Despite the economic recession, imports doubled in 2009 to about 22,396 tonnes before falling slightly in 2010 to 19,052. The turnaround in the sales of fair-trade bananas in the United States came about with the controversial granting of the fair-trade label to the Dole Company. The principal suppliers of fair-trade bananas to the U.S. market are Colombia, the Dominican Republic, Ecuador, and Peru. Recently, bananas from Mexico were granted fair-trade label status, with Mexico sending shipments to the U.S. West Coast market.

Data on wholesale prices for organic and conventional bananas were analyzed for selected markets. In the New York City market there appears to be a highly positive correlation between the prices for both organic and conventional bananas, implying that both prices tend to move in the same direction. A similar trend was observed for the San Francisco market. In the New York market the average price premium of organic bananas over conventional bananas was \$6.18 per box, while in the San Francisco market the premium fluctuated from a low of \$1.10 to \$9.1 per box. Based on an analysis of the price data at the regional level it was concluded that consumers in the Northeast pay higher prices for organic bananas on average (\$1.91 per kilogram) than do consumers in the Southeast (\$1.56 per kilogram).

A recent study estimated that the own-price elasticity of demand for organic bananas is elastic, which means that the demand for organic bananas is very responsive to changes in price. The study also estimated the income elasticity of demand for organic bananas and found it to be positive, implying that an increase in disposable income will lead to a rise in demand, and vice versa.

Relevant D.R. Banana Sector Issues

The majority of banana producers in the Dominican Republic (D.R.) are small-scale farmers who are members of the 15 producer associations or cooperatives that provide support and assistance for the packaging and marketing of bananas. About 80% of the producers operate on less than 3 hectares and do not have title to the land. Consequently, they have difficulty accessing credit. Other critical banana production issues are as follows:

- 1) Production encompasses conventional, organic, and fair trade bananas, with the majority growing either organic or fair-trade bananas, or both
- 2) There is the possibility of inadvertent 'contamination' of organic farms from adjacent conventional ones since production areas are not zoned
- 3) D.R. agronomic conditions allow for the production of a smaller but 'tastier' fruit
- 4) There is a shortage of farm labor, and agricultural inputs are costly
- 5) Currently, black sigatoga disease threatens organic banana production because the disease is not easily controlled without the use of chemicals
- 6) Obtaining certification is costly, varying between \$1,000 and \$3,000

- 7) Post-harvest handling systems and procedures are weak, contributing to poor fruit quality upon ripening
- 8) Institutional and public sector support is weak

In general, D.R. banana producers are more attracted to the EU market because of the higher price offered there, compared to the U.S. market. With respect to accessing the U.S. market, critical issues include:

- 1) Phytosanitary issues are a major concern of U.S. authorities
- 2) Fruit size and quality is a concern of the typical U.S. importer who seeks a product that is relatively blemish free and at a competitive price
- 3) Consistent scheduling and delivery is also very important, and lapses in this regard have tarnished the image of the D.R. banana
- 4) Shipping and port costs to U.S. ports are high relative to those in the European Union
- 5) Prior experience of D.R. producers exporting to U.S. markets revealed that MNCs squeezed new market entrants when they were perceived to be increasing the volumes shipped
- 6) U.S. entrepreneurs who previously imported bananas from the Dominican Republic were reluctant to resume the trade unless they were assured of receiving the consignment at a price that allows underselling the competition
- 7) Extensive market intelligence was perceived as an important requirement to facilitate the trade, as well as the services of a broker dedicated to moving shipments from the Dominican Republic
- 8) Within the United States, payment is on a 25- to 60-day cycle, a practice that may prove inconvenient for small producers dependent on a more regular income stream

In a highly competitive world economy, transportation costs are a significant determinant of a country's trade competitiveness. Given the physical proximity of the Dominican Republic to the U.S. market, it may be anticipated that the Dominican Republic would enjoy an advantage in shipping rates to U.S. ports. However, the research indicated that while the Dominican Republic and Guatemala had the shortest transit times to U.S. ports (2 days), they did not realize the lowest shipping costs in all cases. Furthermore, even though the Dominican Republic should experience cost advantage in shipping to the U.S. East Coast, in reality such advantages were not realized. This indicates that negotiating competitive shipping rates will be important in securing a competitive price for D.R. bananas at U.S. ports.

Organic and Fair-trade Banana Demand Considerations in the U.S. Market

A structured survey of importers, wholesalers, and retailers was undertaken, complemented by in-person or telephone interviews of market participants. The sample frame representation was drawn from across the United States, inclusive of the East Coast (north and south), Central, and West Coast

states. In-person and/or telephone interviews covered a similar scope. The resulting sample frame comprised a total of 73 market participants, with 15 importers, 30 wholesalers, and 28 retailers.

The survey and interviews revealed that conventional, organic and fair-trade bananas are sourced from several Latin American countries, primarily Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Peru, and the Windward Islands. Three of these countries dominate the supply, with Ecuador and Peru being major sources of organic and fair-trade bananas. Supplies are sourced by dedicated importers or firms that combine as importers and wholesalers. Consignments are purchased either directly from producers or through a third party in the country of origin. Banana sales from the Dominican Republic are invariably through a third party. In general, respondents envisaged that there could be an increase in the demand for organic and fair-trade bananas.

Multinational firms control the U.S. banana market, and established brands (Dole, Chiquita, Del Monte) are the main ones sold. In addition, brands such as Banacol and Turbana have established a niche, and others (Cerro Azul, Organics Unlimited, Pronatur, and Urocal) are claiming a place in the market. Some retailers have indicated preparedness to stock other brands, provided they are of comparable quality. However, only a few wholesalers have been willing to expand the scope of sourcing their supplies. One importer/wholesaler emphasized that the securing of low-cost shipping to the United States is a challenge. He observed that this is one area in the trading arrangements for bananas where multinationals with dedicated shipping lines have a distinct advantage.

In general, market participants share a common view of the product characteristics of high importance. Among these, price competitiveness and quality seem critical for organic and fair-trade bananas to secure a stronger market presence.

Synopsis of Branding

The likely benefits from branding are not perceived to outweigh the costs because of the absence of a unique characteristic of the D.R. banana that can be promoted in a branding venture. Interviews with the trade strongly suggest that the emphasis should be placed on correcting the 'unfavorable' image of D.R. bananas by breaking into the market with a consistent supply of high-quality fruit at a competitive price. To facilitate consumer awareness of D.R. bananas, a less costly country-of-origin label can be used to sensitize consumers about the origin of the fruit.

Enhancing the Dominican Republic's Presence in the U.S. Market for Organic and Fair-trade Bananas

The proposals for enhancing the Dominican Republic's presence in the U.S. market have been developed within the context of perceived changes in the global banana market, particularly within the EU market, and in recognition that the U.S. market is particularly influenced by fruit quality and product price. These constitute an integrated strategy involving supply issues, including shipping considerations; U.S. port-side issues; retail considerations; and institutional/public sector support across these various categories.

Major Findings of the Study

- 1) There is the perception among the trade that the quality of D.R. bananas is not of high standard; this is mainly due to the size and quality of logistical support, including communication
- 2) The market for organic and fair-trade organic bananas is undersupplied in the latter part of the year, so there is significant opportunity to supply the banana market from August to December
- 3) The U.S. market (traders) prefers a larger banana than the size currently produce in the Dominican Republic, but is not totally opposed to selling the smaller D.R. bananas
- 4) The most promising market for the D.R. banana resides on the U.S. East Coast
- 5) Demand for organic and fair-trade organic bananas is projected to continue to expand; there is no significant downturn in demand as a result of the recession
- 6) U.S. consumers are more concerned about **price and quality** than organoleptic characteristics, such as sweetness of bananas
- 7) It is extremely difficult to access the market at the retailer's end, so it would be better to focus efforts at establishing partnerships and relationships with importers/wholesalers
- 8) The benefits to be derived from establishing a brand would not exceed the costs at this time, so it would be better to focus on gaining market presence by focusing on quality (in the widest sense) and price
- 9) Despite the proximity of the Dominican Republic to the United States, freight cost is a major barrier to increasing the competitiveness of D.R. bananas

Key Considerations for Accessing the U.S. Market

Supply Issues

The most critical of the supply issues is the commitment of producers to dedicate a portion of their output to the U.S. market that currently may not offer as attractive a price as the alternative EU market. It must also be appreciated that this will be a commitment to receiving low margins for an initial 3- to 5-year period as a foothold is developed in the U.S. market.

It will be important to focus technical resources on increasing the productivity of D.R. banana producers, whose current productivity averages about 1,600 boxes per hectare, to match that of their competitors at 2,000–3,000 boxes per hectare.

Another important supply issue is the improvement of post-harvest handling systems and infrastructure for bananas within the Dominican Republic. Among other things, this will eliminate blemishes problems when the bananas ripen, which should contribute immensely to the improvement of fruit quality that is a major requirement for successfully accessing the U.S. market.

Shipping Considerations

The reduction of shipping costs will be extremely important in improving the competitiveness of D.R. bananas. Research on shipping costs shows D.R. bananas should be enjoying a cost advantage, but interviews with the trade convey otherwise. It will be important to increase production volumes in order to negotiate more competitive shipping rates, perhaps through greater collaboration among exporters, and the negotiating of lower cost shipping contracts.

U.S. Port-side Issues

Importer partnerships and D.R. wholesaler/distributor in a U.S. wholesale produce market

The stranglehold that the MNCs have on the U.S. banana market can likely be mitigated through the development of partnerships with independent U.S. importers. In addition, the establishment of a D.R.-sponsored wholesaler/distributor associated with one of the U.S. East Coast wholesale produce markets can serve to complement any partnership with an independent U.S. importer, presumed also located on the U.S. East Coast.

Retail Considerations

Establishment of niche outlets

In light of the tight control that the MNCs exercise over the major retail chains through long-term contracts, it will be prudent to seek to develop niche outlets for D.R. bananas. Specialty retailers such as Whole Foods, Trader Joe, and cooperatives that have a health-conscious clientele and offer a wide range of fair-trade products are prospective niche outlets. In addition, other independent retailers are good candidates for targeting through collaborations with cooperative importers/wholesalers.

Market intelligence

Market intelligence is critical, especially when entering a foreign market. Current and accurate market intelligence will be most helpful in facilitating the access of D.R. bananas into the U.S. market. These data and information will be invaluable in the overall thrust of the program to secure a foothold for D.R. bananas into the U.S. market.

Institutional Support with Public Sector Involvement

There is considerable scope for strengthening and upgrading the level of public-sector involvement in institutional support to the banana sector in general and the export of bananas in particular. This is perceived as necessary for activities both within and outside the Dominican Republic. Internal support will address issues that can contribute to greater productivity by producers, including

- 1) Investment in access roads and upgraded post-harvest handling systems and infrastructure

- 2) Improved agricultural extension systems for better technical efficiency and greater productivity
- 3) Risk management tools, including insurance, to mitigate the risk that producers face from hurricanes and inclement weather
- 4) Facilitate producers to acquire capital at rates that will encourage investment in U.S. market access, perhaps through revolving credit

External support is conceived to encompass market penetration activities, including:

- 1) Establishment of U.S. distributor/broker services to facilitate the distribution of D.R. bananas into the United States
- 2) Jointly-sponsored private sector/public sector export promotion drives targeted to specific niche markets within the United States

While it is feasible for D.R. bananas to successfully penetrate the U.S. market based solely on private-sector initiatives, it is unlikely that private-sector efforts alone will succeed, given the strong control that the MNCs have over the market generally and the retail sector in particular. As a consequence, it is suggested that D.R. public-sector support is critical to successfully meet the objectives of developing a niche for D.R. organic and fair-trade bananas in the U.S. market.

Concluding Comments

Securing a niche in the U.S. banana market for fruit from the Dominican Republic is a huge, but not insurmountable, challenge. It will require a strong focus solely on the organic and fair-trade market niche, with a buy-in from D.R. producers who are prepared to dedicate a portion of their output entirely to this goal. They will need to work diligently on improving their productivity and product quality, recognizing that in the initial years, margins are likely to be low. As part of the penetration strategy, consideration should be given to initially targeting the latter months of the year, demonstrating the ability to provide consistently high-quality fruit, and developing meaningful relationships with buyers.

Negotiating reduced shipping costs and predictable schedules will be critical to the delivery of a consignment of fruit at a competitive price, desired quality, and in a timely manner. Strong collaboration with an independent U.S. importer/wholesaler will also be a critical link in the process.

In addition, strong institutional support arrangements at various stages, in which there is collaboration between producers and the public sector, will also be needed to successful goal achievement.

Revised Technical Report: Analysis of the U.S. Market for Organic and Fair-trade Bananas from the Dominican Republic

SECTION 1. INTRODUCTION

1.1 Context of the Assignment

The Dominican Republic has experienced fluctuating shares of the global market for organic and fair-trade bananas within the past decade due to widely fluctuating domestic production and increasing competition from producers in other countries for accessing the EU (European Union) and U.S. (United States) markets. These circumstances and available market information prompted national stakeholders to suggest conducting an in-depth assessment of the determinants of fluctuations in D.R. (the Dominican Republic) exports of organic and fair-trade bananas, and investigating the viability of new market opportunities. As a consequence, this exercise was undertaken to evaluate the U.S. market for organic and fair-trade bananas and to assess opportunities for increasing the supply of D.R. bananas to the United States.

1.2 Goal, Objectives, Terms of Reference & Specific Tasks of the Consultancy

Goal

The main goal of the assignment is to identify strategies to facilitate the entry of bananas from the Dominican Republic into the U.S. market. Of related interest is the determination of production and marketing strategies that can contribute to increased income for D.R. banana producers.

Specific Objectives

The exercise is intended to analyze the U.S. market for D.R. organic and fair-trade bananas in order to determine existing and potential market opportunities for the Dominican Republic. Two main components were envisaged, namely:

- 1) A buyer's survey aimed at formulating proposals on how to improve existing business linkages and develop new commercial opportunities
- 2) The development of a U.S. market strategy for organic and fair-trade bananas from the Dominican Republic, including the most appropriate and viable certification and branding strategies

1.3 Report Structure

Section two discusses the banana market, beginning with a global overview and continuing with a review of the salient features of the U.S. market. Section three presents critical issues pertaining to the banana sector in the Dominican Republic, relevant to the study. Section four consists of a value chain analysis of the banana market as existing within the United States and examines value chain projections pertaining to D.R. bananas exported to the United States. Section five describes banana demand characteristics of the U.S. market, gleaned from the analysis of the responses of a survey of importers, wholesalers, and retailers. Section six presents an analysis of the D.R. banana sector, indicating its perceived strengths, weaknesses, opportunities, and threats (SWOT). Section seven discusses identity and branding considerations. Section eight presents short-term and medium-term strategies for enhancing the Dominican Republic's presence in the U.S. market for organic and fair-trade bananas. Section nine offers our conclusions and comments.

SECTION 2. THE BANANA MARKET

2.1 Overview of the World Market for Fresh Bananas

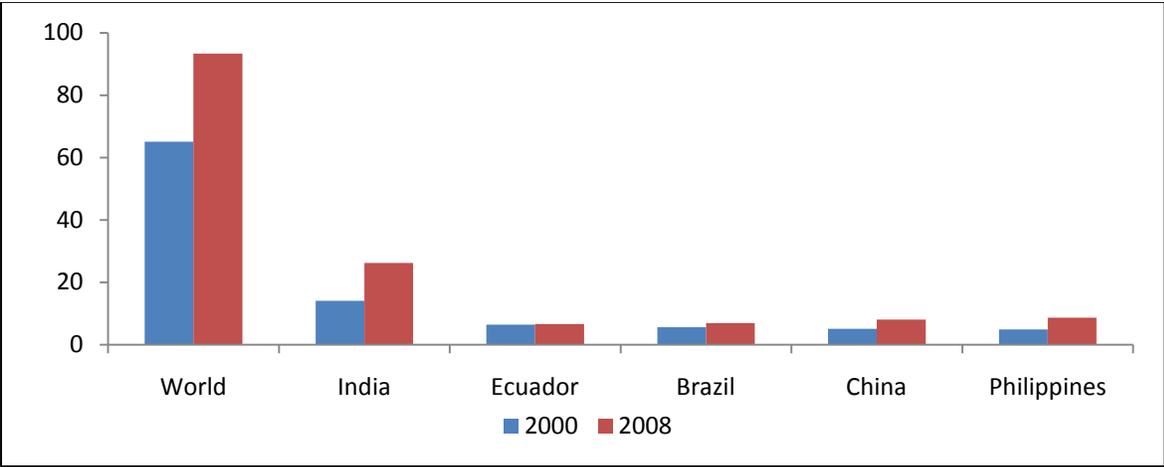
Banana is one of the world’s most important crops grown by small- and large-scale producers alike, with production occurring in more than 130 countries. The economic importance of the banana industry encompasses the generation of export earnings and the employment of hundreds of thousands of people in Latin America, the Caribbean, Southeast Asia, and West Africa. In addition, the industry employs thousands in distribution networks and supermarkets worldwide.

World Production of Fresh Bananas

In 2008, world production of bananas reached an estimated 93 million metric tonnes (MMT), grown on 4.4 million hectares. The 2008 crop represented an increase in production of more than 40% from the 65 MMT recorded in 2000. The top five banana-producing countries are India, Ecuador, Brazil, China, and the Philippines. These five countries accounted for 61% of global production in 2008, up from 56% in 2000. In addition, there were noticeable production increases in India and the Philippines (Figure 2.1).

India continues to be by far the largest world producer of fresh bananas; by 2008, India produced more than 26 MMT of bananas, which is nearly 28% of the global production. Next in line is the Philippines, with a market share of 9.2%, followed by China (8.6%), Brazil (7.4%), and Ecuador (7.1%). Of the top five banana-producing countries, only Ecuador and the Philippines are major exporting countries. The bulk of the production is consumed locally.

Figure 2.1: World’s top producers of fresh bananas, 2000–2008 (million metric tonnes)



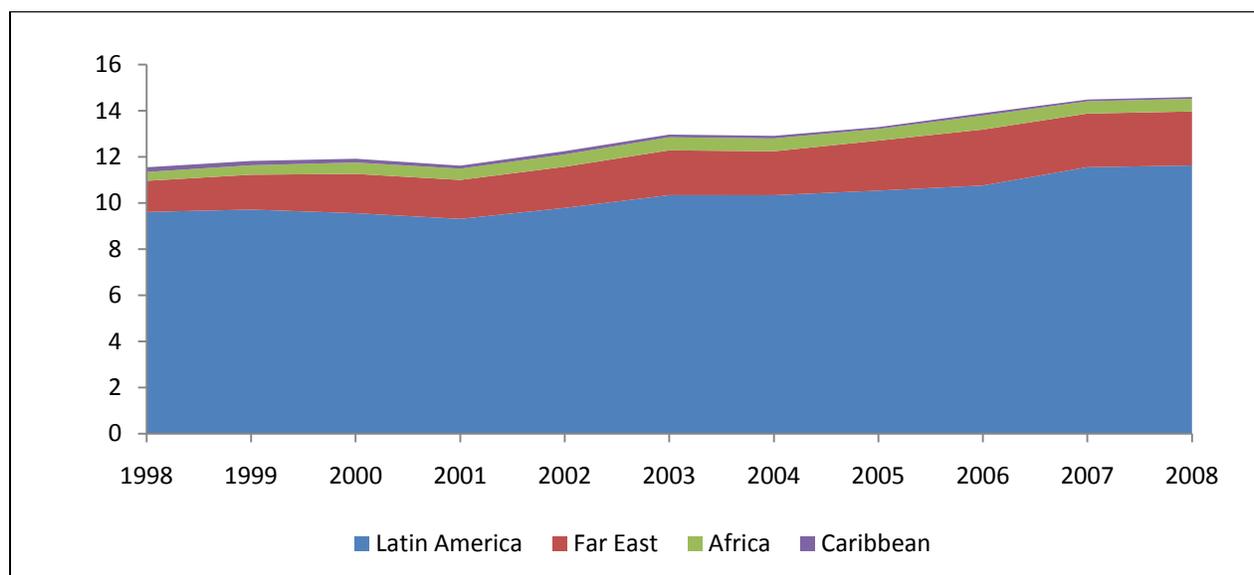
Source: FAOSTAT

Main Exporters of Fresh Bananas

Global export of bananas in 2008 was estimated at 14.59 MMT, the equivalent of 15.6% of the world production that year, and was valued at approximately \$7.6 billion. The five leading banana exporting countries in 2008 were Ecuador, Costa Rica, the Philippines, Colombia, and Guatemala. Together, they accounted for approximately 82% of the global banana exports in 2008. Ecuador is by far the main supplier of bananas in the world market, with exports of 4.72 MMT in 2008, which is equivalent to 32% of the total volume bananas traded that year. Next in line is the Philippines, with a market share of 15.2%, followed by Costa Rica (12.8%), Colombia (12.2%) and Guatemala (9.3%).

Although banana is the second most tradable fresh fruit, most of the major producers are themselves not the main exporters, save for Ecuador and the Philippines. As a consequence, the Latin America region emerges as the world's top supplier of bananas, supplying almost 80% of the gross fresh bananas exports in 2008 (Figure 2.2). The Far East region supplied 16% of the world's bananas exports in that year, followed by the African region, with share of 3.8%. Exports from the Caribbean have been steadily decreasing, from 204,000 tonnes in 1998 to about 75,000 tonnes in 2008, representing a decline in market share from 1.8% to 0.5%. Among other things, this has been attributed to increased competition due the loss of preferential treatment after the liberalization of the EU market.

Figure 2.2: World gross banana exports by region, 1998–2008 (million metric tonnes)



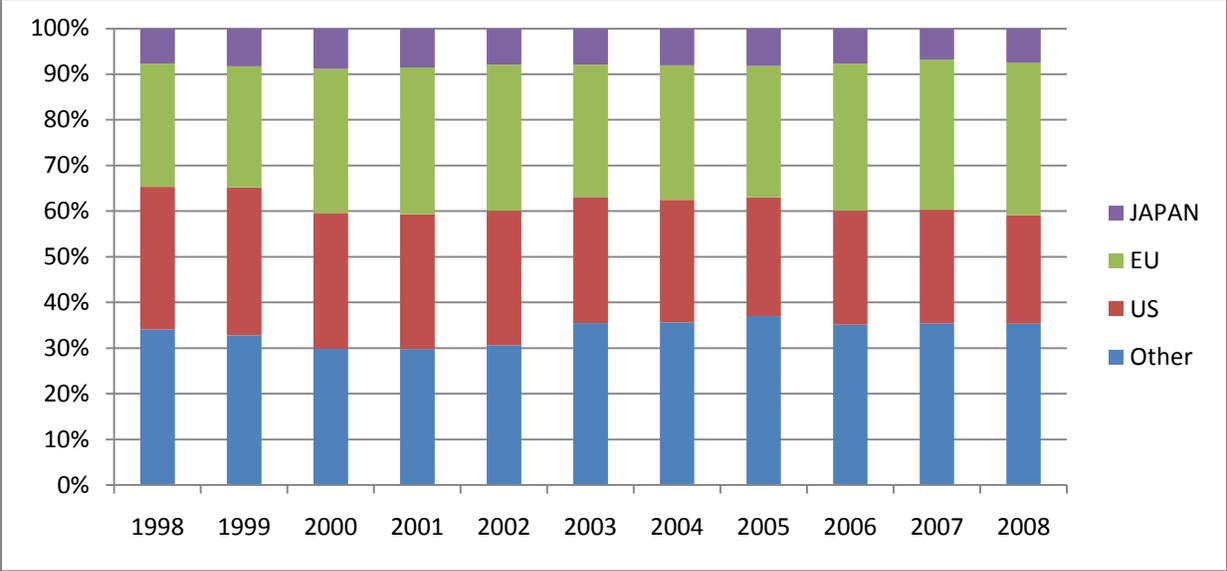
Source: FAOSTAT

Main Markets for Fresh Bananas

Global imports of fresh bananas continue on an upward long-term trend, reaching 14.59 MMT in 2008. The 2008 figure represented an increase of 29% above the 11.19 MMT exported in 1998 (Figure 2.3). As in the case of exports, imports of bananas are concentrated. In that year, the United States, the

European Union, and Japan accounted for more than 65% of the total world’s fresh banana imports. While imports of bananas from the United States and Japan have remained relatively flat over the period 1998 to 2008, imports by the European Union have increased by 30%, from 3.01 MMT in 1998 to 4.85 MMT in 2008. The noticeable increase in EU banana imports is attributed directly to the changes in the European Union’s banana import regime involving the elimination of quotas.

Figure 2.3: Distribution of fresh banana imports, 1998–2008



Source: FAOSTAT

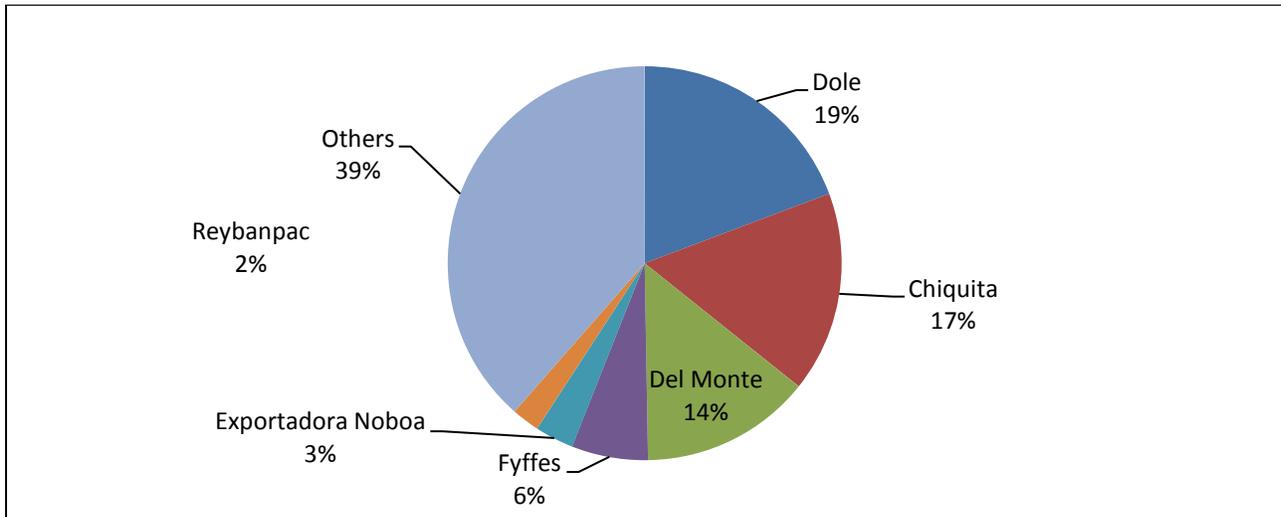
World Market Structure for Fresh Bananas

The world’s fresh banana market is characterized as an oligopolistic market, with only a few multinational companies (MNCs) engaged in the purchase, transport, and marketing of the fruit. Typically, these companies are integrated vertically; they own or contract plantations, own sea transport and ripening facilities, and have their own distribution networks in consuming countries, which gives them considerable economies of scale and market power in selling bananas to the consuming countries.

The world’s three largest producers and marketers of fresh bananas are Dole Food Company, Chiquita Brands International, and Del Monte Fresh Produce. Each of these companies owns banana plantations in Central and South America, as well as in other banana-producing regions in the world.

Figure 2.4 shows the estimated market share in 2009 as follows: Dole Food Company (19%), Chiquita Brands International (17%), Del Monte Fresh Produce (14%), the Fyffes (6%), Exportadora Bananera Noboia (3%), Reybanpac (2%), and other companies (39%). Based on publicly available information (companies’ annual reports and websites), these six companies accounted for 61% of the world market for fresh bananas in 2009.

Figure 2.4: World market share of fresh bananas, 2009

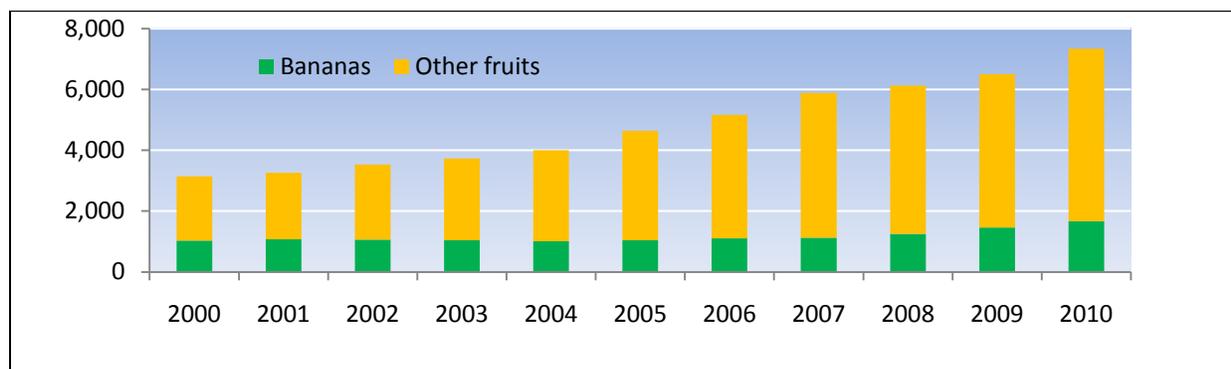


Source: Companies' annual reports.

2.2 U.S. Market for Fresh Bananas

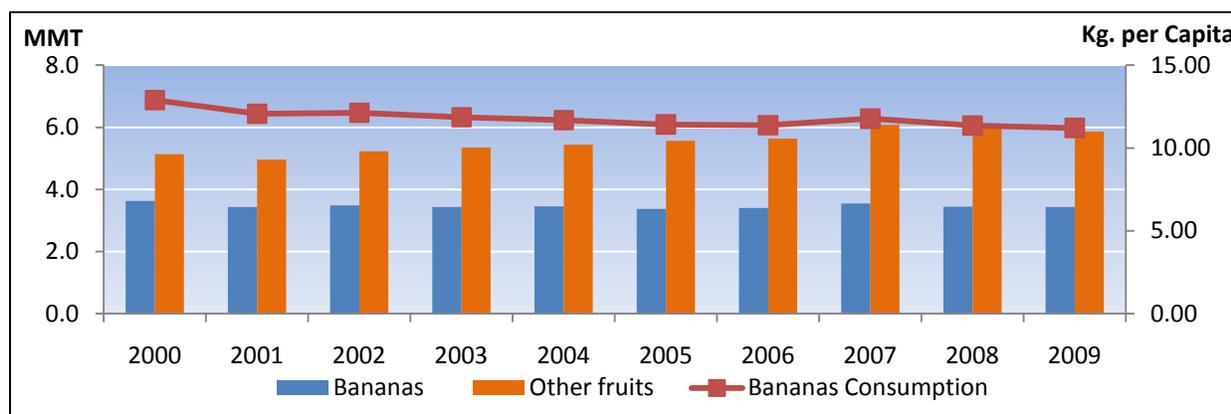
Unlike the EU market, the U.S. banana market is free of tariff or quantitative import restrictions, making it a very competitive market. Measured by value or volume, banana is still the most important fresh fruit imported into, and consumed in, the United States. In 2000, total shipments of bananas to the United States were valued at \$1.02 billion, representing 32% of the total value of fresh fruit imports that year (Figure 2.5). By 2010, the import value of fresh bananas had risen to \$1.64 billion, a 61% increase over the 2000 figure, though representing a 9-percentage-point decline in market share (23%) of the value of all fruit imported over the corresponding period. The relative decline was due mainly to considerable increases in both the value and volume of other fresh fruit imports, particularly grapes, berries, and tropical fruits such as mangoes and avocados, which increased exponentially. It should also be pointed out that the observed absolute increase in the value of banana imports was due mainly to the increase in unit price stemming from a weak U.S. dollar, and not as a result of increased volumes. As shown in Figure 2.6, the total supply of fresh banana remained relatively flat over the period 2000 to 2010 at around 4.0 MMT. This implies that in general the U.S. fresh banana market has become saturated. This is further evidenced by the slight decline in per capita consumption, down from 12.9 kilograms in 2000 to 11.2 kilograms per capita in 2010 (Figure 2.6). As will be discussed shortly, even though the fresh banana market in general can be regarded as a mature market, the situation is completely different when it comes to organic (including fair-trade certified organic) bananas.

Figure 2.5: U.S. fresh market fruit value of imports, 2000–2010



Source: FAS USDA

Figure 2.6: U.S. supply of fresh fruits and banana consumption, 2000–2009



Source: ERS USDA

Main Suppliers of Fresh Bananas

The main suppliers of bananas to the U.S. market are Guatemala, Ecuador, Costa Rica, Colombia, and Honduras. In 2010, these five countries shipped an estimated 3.9 MMT of fresh bananas to the United States, accounting for 94% of the total U.S. banana imports (Table 2.1; Figure 2.7). In 2010, Guatemala replaced Costa Rica as the main supplier of fresh bananas to the United States, accounting for 28% of the supply of fresh bananas. Guatemala’s exports to the United States steadily rose over the period, increasing from 0.68 MMT in 2000 to 1.15 MMT in 2010. The United States has therefore become an important market for Guatemalan bananas, accounting for 85–90% of that country’s total banana exports. Ecuador has maintained its relative position as the second largest supplier of fresh bananas to the United States, with a market share of 24%. Exports from Ecuador to the United States in 2010 totaled 0.98 MMT of bananas. In contrast, Costa Rica’s banana exports to the United States declined

considerably over the period, from 1.36 MMT in 2000 to 0.56 MMT in 2009, before recovering to 0.85 MMT in 2010. Costa Rica now accounts for 21% of the U.S. banana import market, down from 34% in 2000. The decline in Costa Rica's exports to the U.S. market is due to a combination of factors, including bad weather that disrupted production and the decision to take advantage of the increased opportunities afforded by the opening up of the EU market. Currently, the United States accounts for only about 40% of Costa Rica's total banana exports. The other major suppliers of bananas to the United States are Colombia and Honduras, each with shares of approximately 11%. As shown in Table 2.1, banana exports from the Dominican Republic to the U.S. market have been negligible and have shown a declining long-term trend. In 2010, the Dominican Republic exported a mere 139 tonnes to the U.S. market, down from a peak of over 7,000 tonnes exported in 2001. Among other factors, the decline has been due to a decision to focus more on the relatively more lucrative and accessible EU market.

The main conventional banana brands marketed in the United States are Dole, Chiquita, Del Monte, Turbana (Uniban), and Bonita (Exportadora Noboa). Because of the lack of publicly available data, it is not possible to estimate the market share for conventional bananas as many of the companies will not disclose this information or do so only on a limited regional basis. The only company that gives an estimated market share is Dole, along with claims of being the number one brand of bananas in the United States, with an estimated market share of 35%.

Figure 2.8 shows the seasonal import pattern of bananas into the U.S. market. In general, volumes are highest during the earlier months but decline toward the latter part of the year. This pattern mainly reflects the supply pattern in South America. It also coincides with the period when the demand for bananas is strongest in the US market. In the earlier part of the year, weather and other factors influencing banana production in South America are more favorable than the latter part of the year (increase incidence of disease). During the summer months, demand is down due to increased competition from other fruits in the market and the fact that most schools are on break. The sharp decline observed in July of 2009 was due to exceptionally bad weather (historic snow storm) in South America (Figure 2.8).

Table 2.1: U.S. imports of fresh bananas by suppliers, 2000–2010

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2010 Market Share
	-----tonnes-----											
Guatemala	688,448	832,106	925,216	934,136	1,020,765	1,029,280	912,902	1,093,391	1,188,724	1,112,151	1,151,843	28%
Ecuador	975,960	946,584	1,021,830	972,475	918,926	904,306	994,335	929,175	830,268	957,643	981,795	24%
Costa Rica	1,361,405	1,082,088	901,485	976,078	865,298	822,731	927,361	1,036,897	874,424	562,892	853,598	21%
Colombia	602,836	473,784	506,441	469,306	464,592	513,748	473,826	377,232	450,757	421,632	461,108	11%
Honduras	275,603	381,540	449,171	432,145	507,914	453,011	422,905	482,732	505,578	388,688	435,722	11%
Mexico	85,123	63,809	42,339	35,197	33,586	33,796	38,573	31,508	66,330	105,158	145,592	4%
Nicaragua	1,906	28,198	29,702	41,620	41,502	38,067	30,465	32,788	31,142	24,911	35,997	1%
Panama	28,707	16,187	259	215	612	2,019	7,516	502	8,046	5,380	29,033	1%
Peru	302	5,656	23,196	13,756	12,384	22,345	25,056	17,848	22,511	19,677	20,060	0%
Dom. Republic	6,437	7,355	3,573	2,136	5,201	4,437	6,213	1,720	112	1,048	139	0%
Others	3,891	3,317	3,709	2,087	2,046	670	317	8	21	19	4	0%
Total	4,030,618	3,840,624	3,906,920	3,879,151	3,872,826	3,824,409	3,839,467	4,003,800	3,977,914	3,599,199	4,114,891	100.00%

Source: USDA/FAS GATS

Figure 2.7: Major suppliers in U.S. fresh banana import market, 2000–2010 (million metric tonnes)

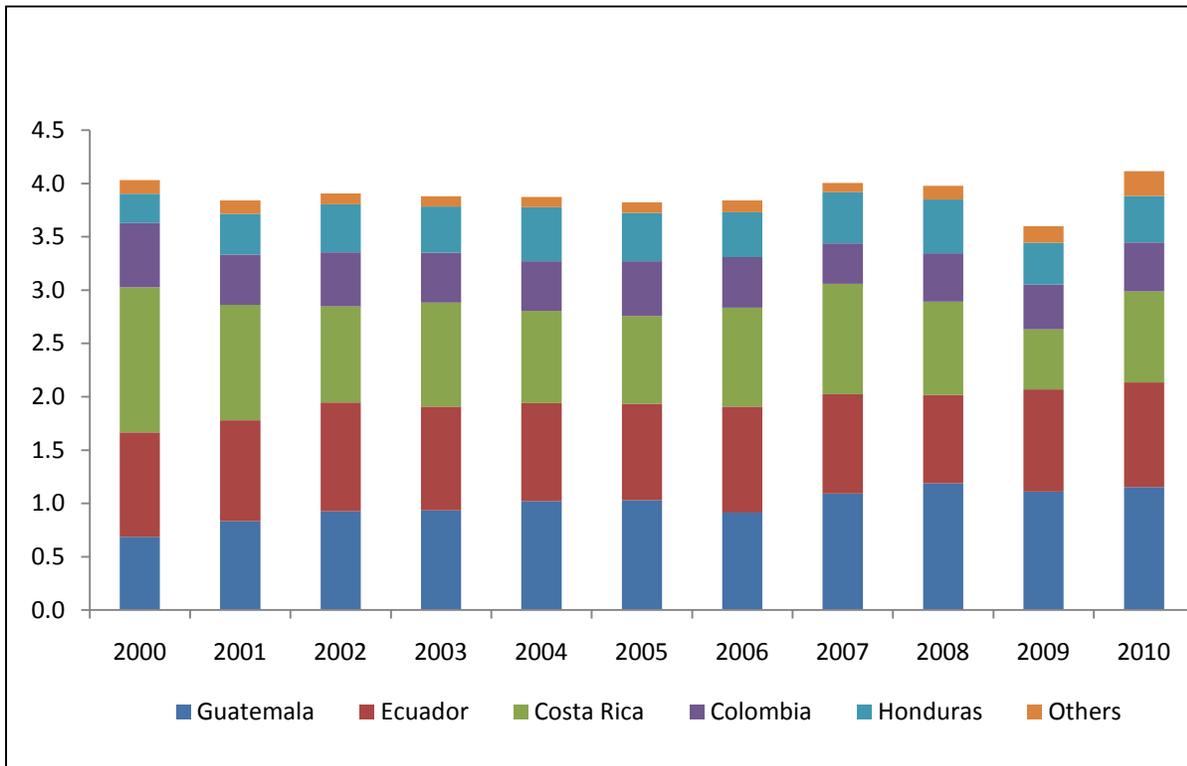
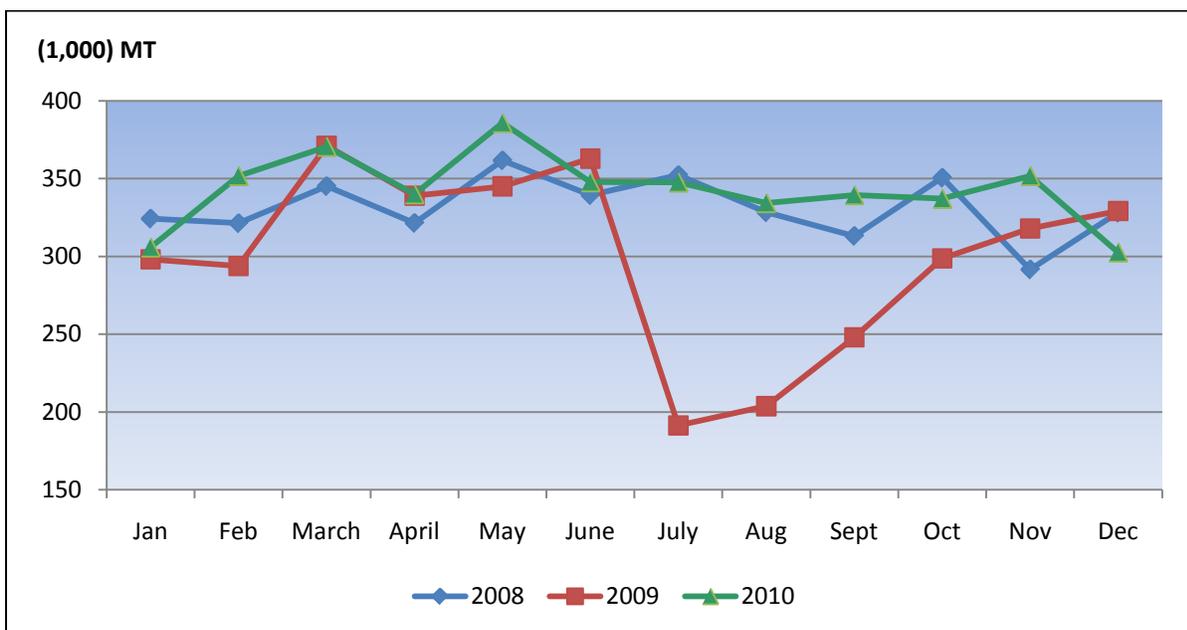


Figure 2.8: U.S. imports of bananas, by months, 2008–2010

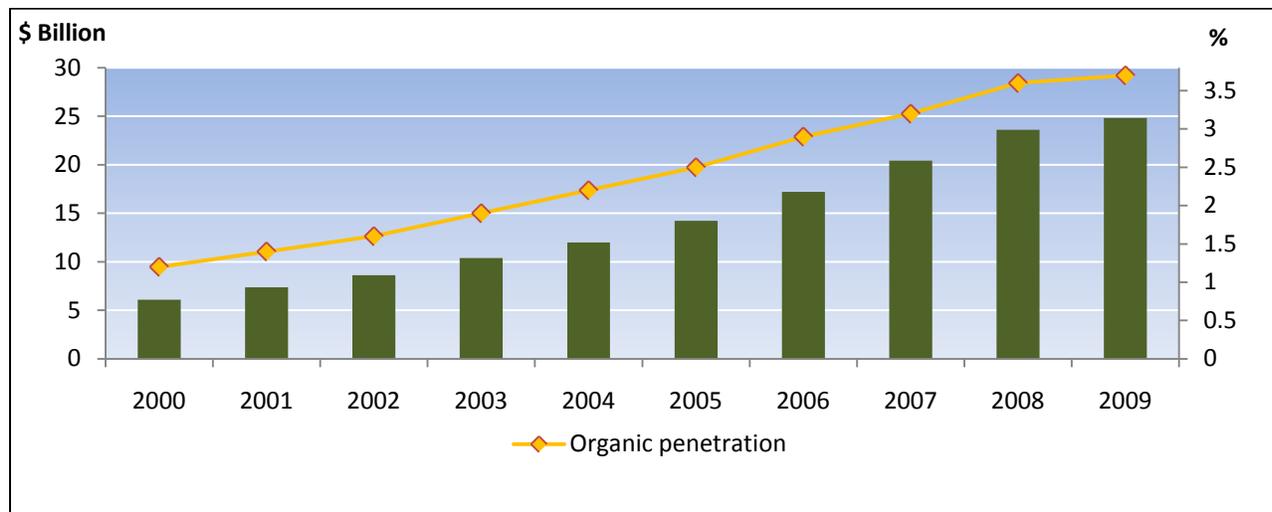


Source: USDA/FAS, compiled by authors

2.3 U.S. Market for Organic Food Products

The United States is the largest single-country market for organic food products. Sales of organic food in the United States have been on an upward long-term trend since 2000 (Figure 2.9). According to the Organic Trade Association (OTA), U.S. retail sales of organic products reached \$ 24.8 billion in 2009, corresponding to a fourfold increase over the 2000 sales. Sales of organic food products in 2009 represented about 3.7% of total food sales, which is a significant net increase compared to the previous level of 1.1% in 2000. Examined by food categories, the top three organic food sellers in 2009 were Fruits and Vegetables (38 %), Dairy (15%), and Breads &Grains (11%).

Figure 2.9: U.S. sales and market penetration of organic food products, 2000–2009



Source: OTA 2010

U.S. Market for Organic Bananas

Statistics regarding imports/exports of organic bananas are not widely available. With the exception of Peru and the Dominican Republic whose exporting agencies regularly publish such export data, quantities of organic banana imported from Colombia and Ecuador had to be estimated based on literature and industry sources. Based on industry sources, the U.S. market for organic bananas in 2010 was estimated to be about 123,450 tonnes (6,789,750 boxes), or 3% of the total volume of fresh banana imports. With a national average price of \$23.79 per box at the wholesale level and a retail price of \$1.74 per kilogram in 2010, the organic banana industry was worth about \$161.5 million and \$214 million at the wholesale and retail levels, respectively.

Whereas the demand for conventional bananas remained relatively flat over the past decade, the demand for organic bananas has been increasing markedly. Between 1998 and 2010, imports grew ninefold, from 13,000 tonnes to over 123,000 tonnes (Figure 2.10). Industry sources have reported that organic bananas represent one of the fastest growing commodities among organic produce, with demand outstripping supply.

The main suppliers of organic bananas to the U.S. market are depicted in Figure 2.11 for the corresponding years 2006 and 2010. Not surprisingly, Ecuador, the leading world exporter of bananas, is the main supplier of organic bananas to the United States. In 2006, it accounted for about 46% of the U.S. organic bananas supply, but has since increased its market share to 52% in 2010. Industry sources point out that bananas from Ecuador are of a very high standard and are relatively cheap. One of the characteristics of the banana industry in Ecuador is that, compared with other Latin American countries, there are large number of small- and medium-scale growers. Consequently, most of the organic bananas in Ecuador are produced by relatively small-scale farms averaging less than 10 hectares. These farms are located in the mountain areas where pest pressure is lower than in the main conventional cultivation zones (Liu 2008). The growers are organized into associations and sell their produce to local firms and multinational companies, mainly Dole. A few of the growers sell their produce directly to importers under the fair-trade label. A touted success story has been the establishment of the El Guabo cooperative. This cooperative comprised about 450 small-scale banana farmers who have transformed themselves from individual, marginalized growers into a democratically run organization with access to the international market. They have partnered with a US importer, Equal Exchange, selling their bananas under the fair-trade label.

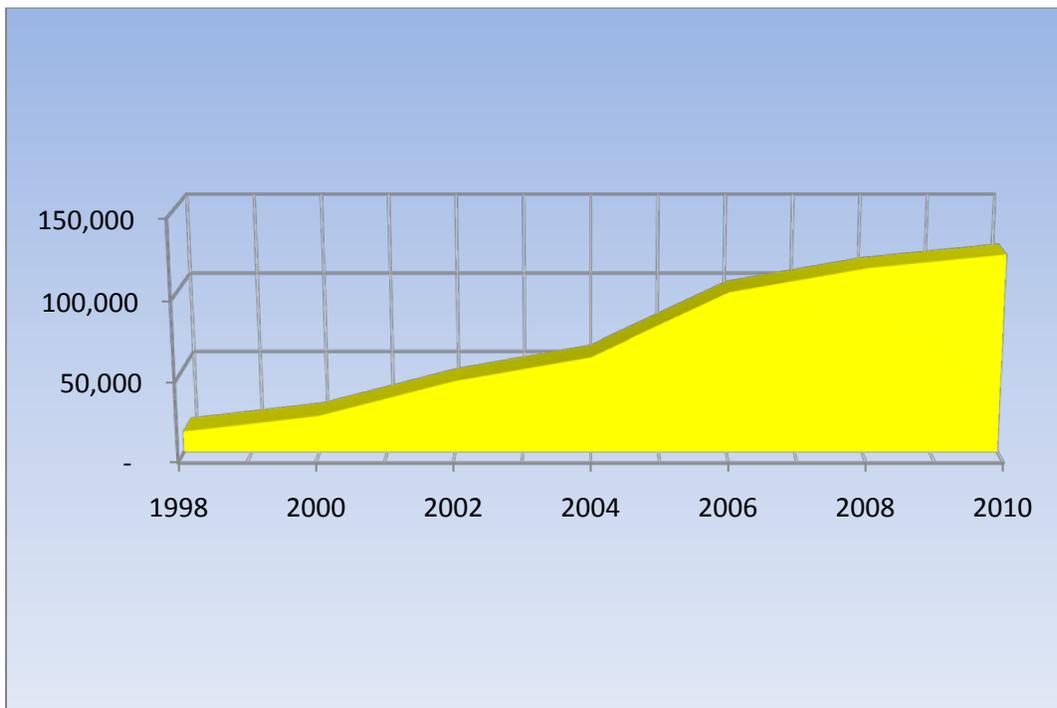
Colombia, which was the third leading supplier of organic bananas to the U.S. market in 2006, has switched positions with Peru and now ranks as the second major supplier of organic bananas to the U.S. market, with an estimated market share of 24% in 2010. The improved market penetration on the part of Colombia is due to major investments in organic banana plantations in that country. In particular, Dole has recently established a state-of-the-art large-scale organic (800 hectares) growing, harvesting, packaging, and shipping operation in Colombia at a cost of over \$8 million. The facility boasts of a suspended-cableway harvesting system that transports products from the farm directly to the packing plants, a state-of-the-art irrigation system, advanced fruit cleansing operations, and an aerial fruit propping system.

The third leading supplier of organic bananas to the U.S. market is Peru, with market shares of 18% in 2010, down from 26% in 2000. In contrast to production in Colombia, most of the organic banana production in Peru occurs on small holdings averaging less than one hectare. This has made the formation of cooperatives essential in order for these farmers to compete in the larger marketplace. Peru has completed a shift from conventional to organic banana production, and as a consequence only exports organic banana to the United States, about 40–45% of total organic export share. In Northern Peru, organic banana industry has been a major engine of economic growth and receives strong government support to assist with its development. For example, the government has attempted to facilitate organic certification and to encourage more direct exporting by local banana cooperatives. In Sullana, Northern Peru, Dole purchases organic bananas from over 1,600 very small growers organized

in associations. This unique project was initially set up by the Ministry of Agriculture and was guided by Dole to achieve the first organic banana exports from Peru. A government-operated irrigation system of canals supplies the fields with sufficient water, resulting in a true oasis in the middle of the desert. A Dole subsidiary company called COPDEBAN SAC was established that guarantees that these bananas meet all quality requirements. Most traditional banana diseases do not encounter the conditions (hot and humid) to facilitate their development. Consequently, the growing conditions are such that these bananas can compete with the best conventionally-grown bananas (Dole website)

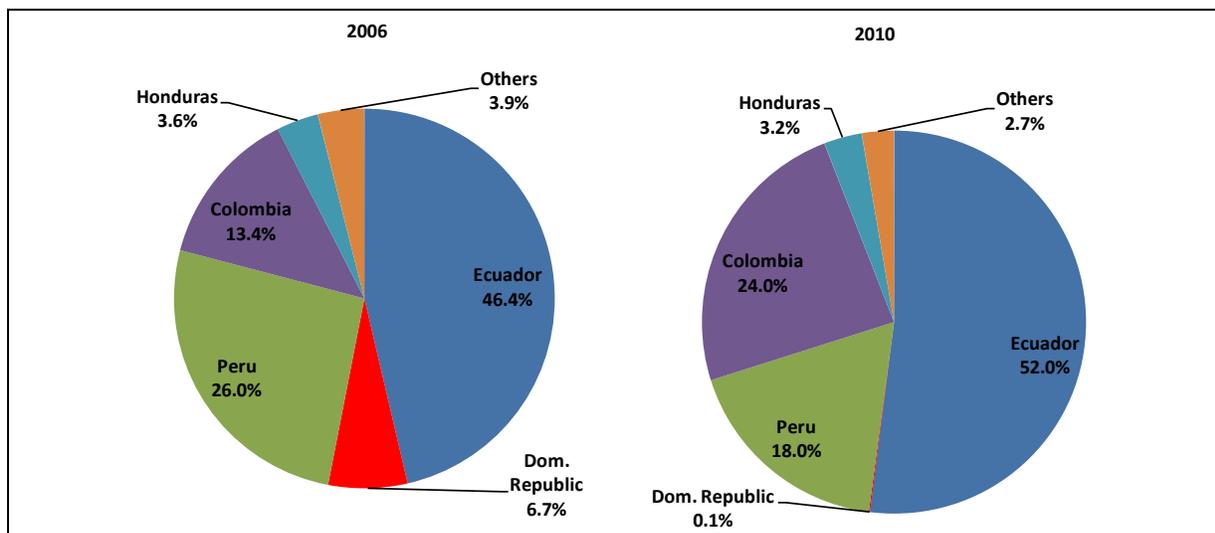
Even though Dominican Republic is one of the world's leading exporters of organic bananas, it is not a significant player in the U.S. organic market. In 2006, it was the fourth leading supplier of organic bananas to the United States, with a market share of nearly 7%. Currently, it exports less than 150 tonnes of organic bananas to the U.S. market, with a market share of less than 1%. SAVID reported that it sold organic bananas to DOLE in 2006, when that company's South American supplies had decreased. That trade has since been discontinued and SAVID has indicated reluctance to resume the trade because of bad experiences. Separate discussions with an MNC representative indicated the willingness to take bananas from any source, provided the price was right, the quantity was substantial, the quality acceptable, and supplies from South America were not weak.

Figure 2.10: U.S. imports of organic bananas, 1998–2010 (tonnes)



Source: Liu, exporting agencies in Peru and Dominican Republic, and authors' calculations for Ecuador and Colombia.

Figure 2.11: Comparison of market shares, by main U.S. organic banana suppliers, 2006 and 2010



Year	Ecuador	Colombia	Peru	Honduras	Others	Dominican Republic	Total
-----tonnes-----							
2006	47,000	13,600	25,056	3,600	5,344	6,800	101,400
2010	64,196	29,629	20,060	3,950	5,495	130	123,460

Source: USDA/AMS, compiled by authors

With respect to marketing channels, Dole is the leading marketer of organic bananas in the United States. The company has been very innovative in the way it markets its organic products (see <http://www.doleorganic.com/>) and has launched a website dedicated exclusively to its organic products. Consumers can virtually see where the product comes from by visiting the website and typing in the three-digit farm code that is listed on the sticker on the fruit. Going online, consumers can also virtually visit the farm to view photos and to learn more about how Dole Organic is helping workers in the banana-producing regions to achieve a higher living standard and a more promising future. Additionally, consumers can verify that the products they purchase are truly grown organically, as growers post online their respective certifications (Dole Annual Report 2009). According to the company's website, Dole imports organic bananas from Colombia, Costa Rica, the Dominican Republic, Ecuador, and Peru. Unconfirmed reports indicate that Dole accounts for as much as 60% of the U.S. organic market. Chiquita is the second largest organic banana exporter selling to the U.S. market. Chiquita sources

bananas from its own plantations and independent growers in Colombia, Ecuador, Honduras, and Peru. Other major organic banana exporters are Fresh Del Monte and Daabon Organics USA.

Eight ports of entry into the United States constituted major banana ports. These are New Orleans, New York, Baltimore, Miami, Los Angeles, San Francisco, San Diego, and Boston. Four of these ports namely Boston, New York, Philadelphia, and Baltimore are situated on the U.S. East Coast. The ports of Los Angeles, San Francisco, and San Diego are on the U.S. West Coast.

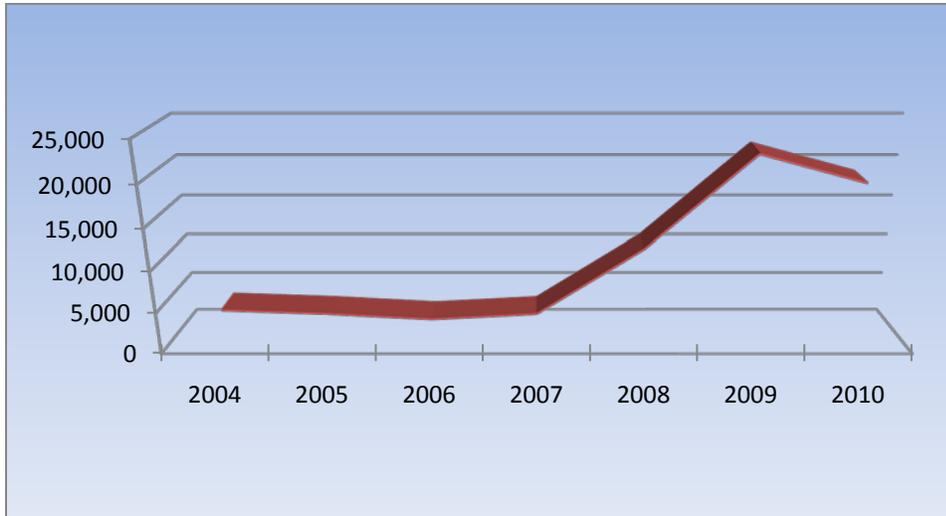
U.S. Market for Fair-trade Bananas

Fair Trade USA (previously Trans Fair USA), a nonprofit organization, is the leading third-party certifier of Fair-trade products in the United States. Fair Trade USA audits and certifies transactions between U.S. companies and their international suppliers to guarantee that the farmers and workers producing fair-trade certified goods are paid fair prices and wages, work in safe conditions, protect the environment, and receive community development funds to empower and uplift their communities ([http://www.Fairtrade USA.org](http://www.FairtradeUSA.org)). In 2010, there were more than 9,500 fair-trade certified products (fair-trade) sold at about 60,000 U.S. retail locations. Fair-trade bananas were introduced into the U.S. market in 2004, with quantities totaling 3,738 tonnes. As shown in Figure 2.12, sales of fair-trade bananas remained relatively flat at around 3,000 tonnes up until 2007. Then in 2008, imports skyrocketed, reaching 11,316 tonnes, an increase of 244% over the previous year. Despite the economic recession, imports doubled in 2009 to about 22,396 tonnes before falling slightly in 2010 to 19,052. The turnaround in the sales of fair-trade bananas in the United States came about with the controversial granting of the fair-trade label to the Dole Company. According to Fair Trade USA, the agreement is that Dole will source their bananas from a balanced mix of small farmer associations/cooperatives and independently-owned plantations that are unionized (Robinson 2009). Approximately 45% (8,573 tonnes) of fair-trade bananas imported into the United States in 2010 were also certified organic bananas (Fair Trade USA Almanac 2011).

The principal suppliers of fair-trade bananas to the U.S. market are Colombia, the Dominican Republic, Ecuador, and Peru. In 2010, Colombia supplied the bulk of the fair-trade bananas exported to the United States, accounting for 56% of the market. As pointed out by Fair Trade USA, the large quantity of fair-trade bananas coming from Colombia made the country the largest origin of fair-trade certified produce sold to retailers and distributors in the United States (Fair Trade USA Almanac 2010). Next were Ecuador and Peru, with shares of 24% and 19%, respectively. Only 1% of the fair-trade bananas sold in the U.S. market came from the Dominican Republic. Of the 27 groups that supplied bananas to the U.S. market in 2010, 18 were from Colombia. Despite the slight decline in sales in 2010, fair-trade banana consumption in the United States is expected to grow as more U.S. consumers become aware of the fair-trade logo and concept. According to Fair Trade USA, a recent survey indicates that only 30% of U.S. consumers are aware of the fair-trade program. The organization has put together an aggressive program of public awareness. Recently, bananas from Mexico were granted fair-trade labeling and shipments have begun arriving on the U.S. West Coast. Given Mexico's proximity to the United States

and the fact that it is one of the leading banana-producing nations, Mexico could easily dominate the U.S. West Coast fair-trade banana market.

Figure 2.12: U.S. imports of fair-trade bananas, 2004–2010 (tonnes)



Source: Fair Trade USA 2010, compiled by authors

2.4 Price Analysis for Fresh Bananas in the United States

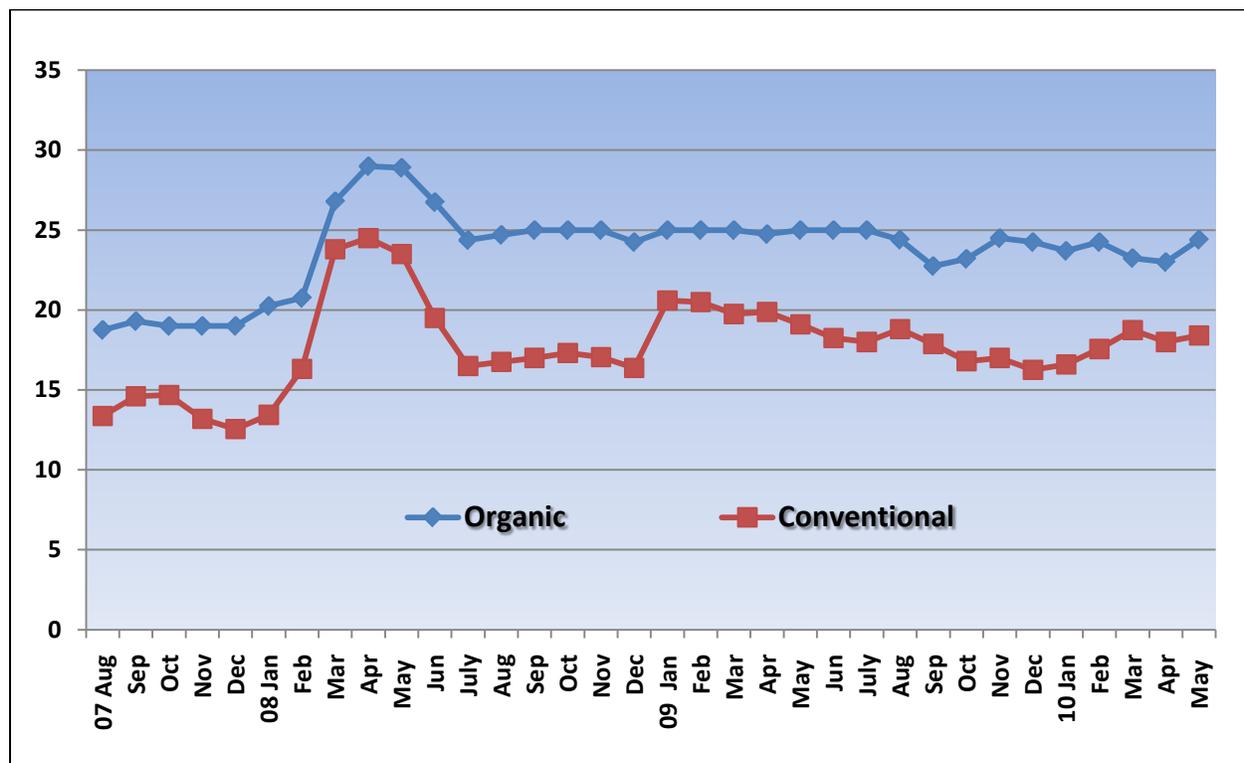
Prices of Conventional & Organic Bananas at the Wholesale Market

Data on wholesale prices for organic and conventional bananas are available for selected U.S. markets from the Agricultural Marketing Service (AMS) of the United States Department of Agriculture (USDA). Because of the scarcity of data, we have chosen New York City (East Coast) and San Francisco (West Coast) to represent wholesale markets on both U.S. coasts.

Figure 2.13 shows monthly wholesale prices for organic and conventional bananas in the New York City market. As shown in Figure 2.11, there appears to be a high positive correlation between prices for both organic and conventional bananas, implying that both prices tend to move in the same direction. The price of bananas in general increased significantly in 2008 because of high demand for the fruit amid product shortages due to bad weather and higher transportation costs due to increases in fuel prices (Dole and Fresh del Monte Annual Reports 2008). Prices of organic bananas reached the highest values during April 2008 at around \$29 per box; thereafter, prices have been relatively stable, ranging from \$22 to \$25 per box. Prices of conventional bananas, likewise, reached the highest levels in April 2008 at \$24.50 per box. Overall, prices for organic bananas have fluctuated from a low of \$18.75 to a high of \$29 per box over the time period of August 2007 to May 2010, a difference of \$10.25. In contrast, the prices of conventional bananas were less stable, ranging from \$12.55 per box to \$24.5 per box, a difference of almost \$12 per box for the corresponding period. The average price for organic bananas during the time

reported was \$23.9 per box while the average price for conventional bananas was \$17.72 per box, representing an average price premium of about \$6.18 (34.9%) per box. In general, prices tend to be higher in the earlier months of the year and then decline in the latter part of the year. The 2010 prices were higher than those of 2007 but lower than prices in both 2008 and 2009.

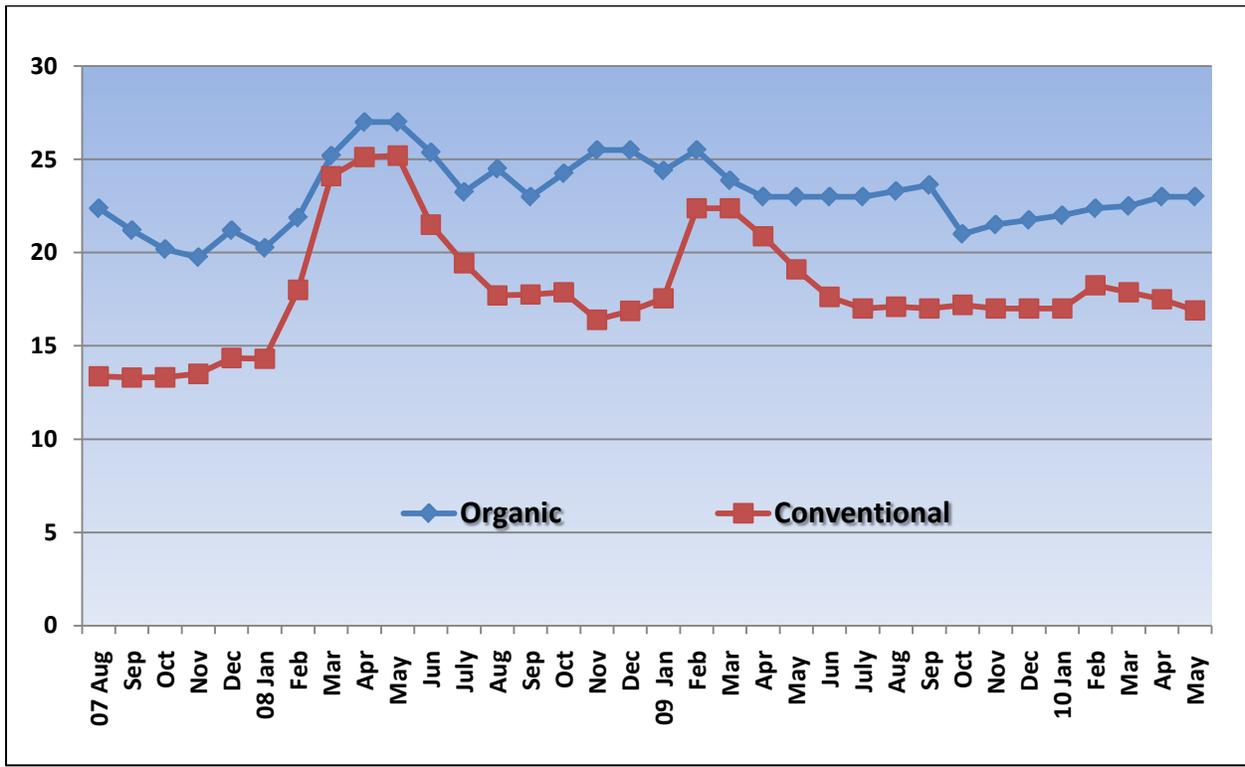
Figure 2.13: Average monthly wholesale prices for organic and conventional bananas in the New York market, 2007–2010 (\$/box)



Source: USDA/AMS, compiled by authors

The monthly wholesale prices for organic and conventional bananas at the San Francisco market are shown in Figure 2.14. Again, it is clear that the prices for both types of bananas tend to move in the same direction. Prices of both conventional and organic bananas reached the highest level during 2008 at \$25.20 and \$27 per box, respectively. During that period, prices for conventional bananas ranged from a low of \$13.30 to a high of \$25.20 per box, a difference of \$11.90 per box. In the case of organic bananas, the corresponding range was \$19.75 to \$27.00 per box, a difference of \$7.25, again implying more stable prices for organics over the period. During the period, the average price for a box of conventional bananas was \$17.32 while the average price for a box of organic bananas was \$22.63, resulting in an average price premium of \$5.32 (30.6%) per box. The price premium organic bananas commands over conventional bananas in the San Francisco market fluctuated from a low of \$1.10 to \$9.1 per box.

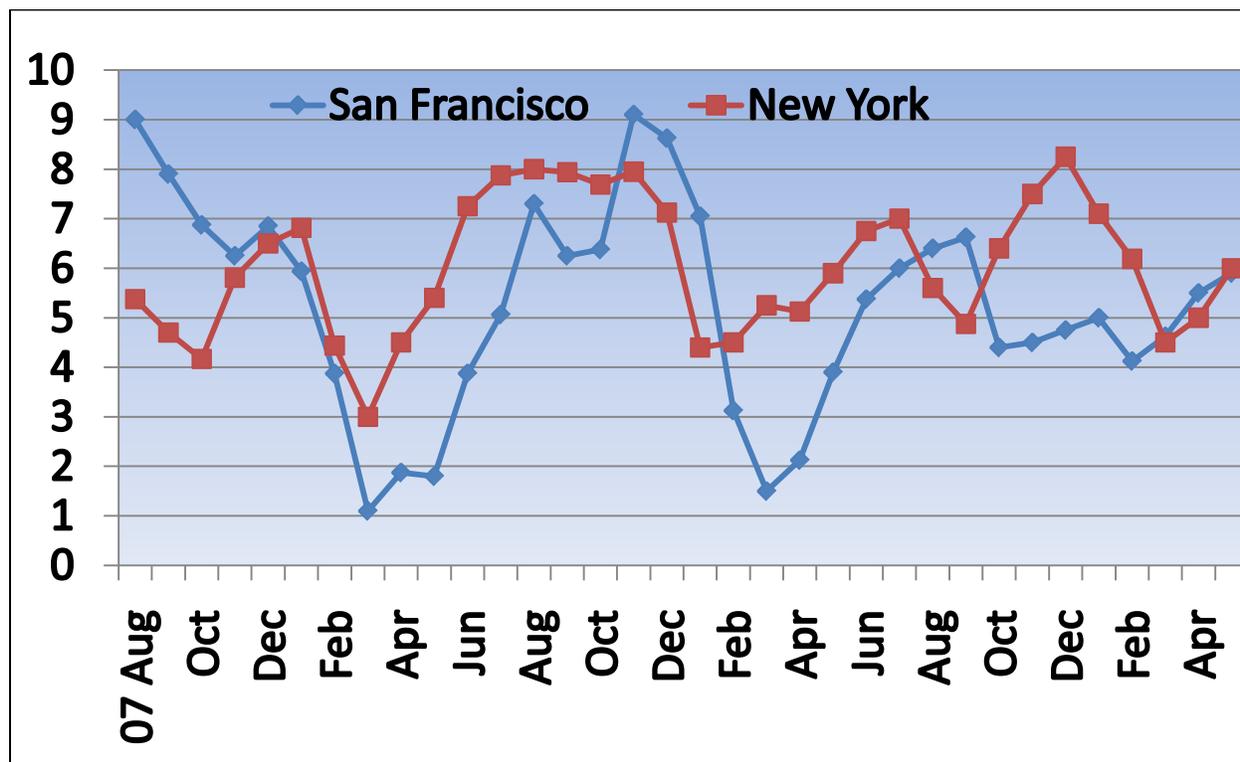
Figure 2.14: Average monthly wholesale prices for organic and conventional bananas in the San Francisco market, 2007–2010 (\$/box)



Source: USDA/AMS

Figure 2.15 compares the price premiums in the New York City and San Francisco markets over the period of August 2007 to May 2010. Price premiums in the New York City market appear to be more stable, ranging from \$3 to \$8 per box (a difference of \$5 per box), than price premiums for organic bananas in the San Francisco market, which had a much wider margin, ranging from \$1.1 to \$9.1 per box (a difference of \$8.00). In percentage terms, price premiums in the New York City market ranged from 13% to 51% while those in the San Francisco market ranged from 5% to 67% over the same period. Although the highest premium was obtained in the San Francisco market the following should be noted. On average, the New York City wholesale market paid a higher premium for organic bananas of \$6.04 per box, compared to a premium of \$5.35 per box in the San Francisco market, for the time period reported. Based on the data provided, there is a 65% likelihood that the price premium in the New York market would be greater than that in the San Francisco market. Moreover, suppliers from the Dominican Republic would have to factor in higher transportation costs than suppliers from Mexico or South America.

Figure 2.15: Average monthly premiums for organic bananas in the New York and San Francisco markets, 2007–2010 (\$/box)



Source: USDA/AMS 2011

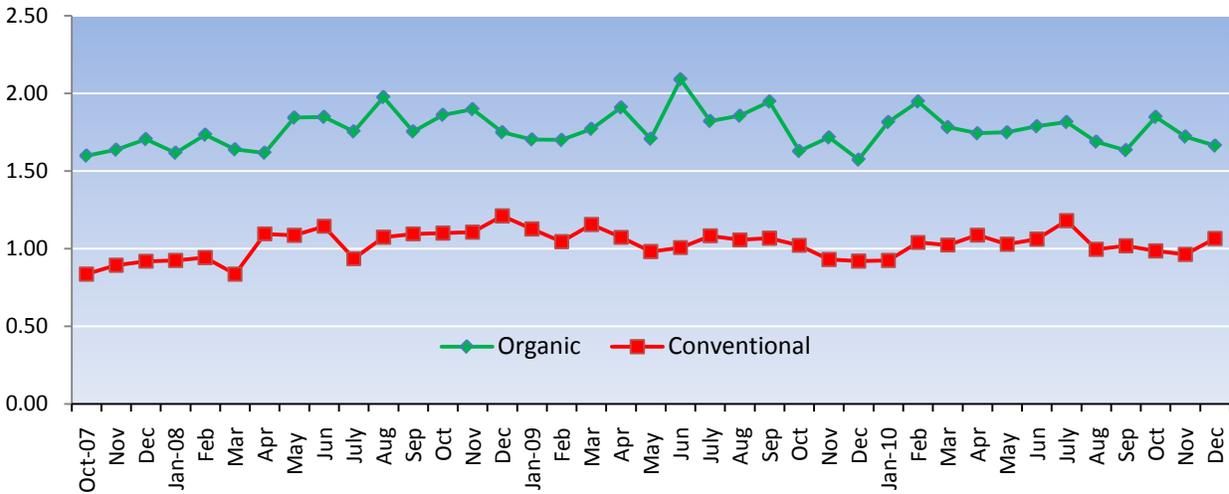
Retail Prices for Organic and Conventional Bananas

The U.S. Agricultural Marketing Service (AMS) of the United States Department of Agriculture (USDA) has been collecting national retail price level data for organic bananas since October 2007. Figure 2.16 illustrates the U.S. monthly retail price per kilogram for organic and conventional bananas. As observed with wholesale prices analysis, prices of organic and conventional bananas tend to follow the same pattern.

In contrast to the situation observed in the wholesale market, retail prices of conventional bananas exhibited more stability than those for organic bananas over the period. The price of conventional bananas ranged from \$0.83 to \$1.2 per kilogram (a difference of \$0.37/kg), whereas the price of organic bananas ranged from \$1.57 to \$2.09 per kilogram (a difference of \$0.52/kg). The average national retail prices from October 2007 to December 2010 for organic and conventional bananas were \$1.76 and \$1.02 per kilogram, respectively. The average premium was \$0.73 per kilogram for the time period under consideration.

The analysis was also conducted at the regional levels. Two regions on the U.S. East Coast were considered: Northeast and Southeast. The Northeast region includes nine states: [Connecticut](#), [Maine](#), [Massachusetts](#), [New Hampshire](#), [Rhode Island](#), [Vermont](#), [New Jersey](#), [New York](#), and [Pennsylvania](#). The Southeast region includes twelve states: [Florida](#), [Georgia](#), [Maryland](#), [North Carolina](#), [South Carolina](#), [Virginia](#), [West Virginia](#), [Delaware](#), [Alabama](#), [Kentucky](#), [Mississippi](#), and [Tennessee](#).

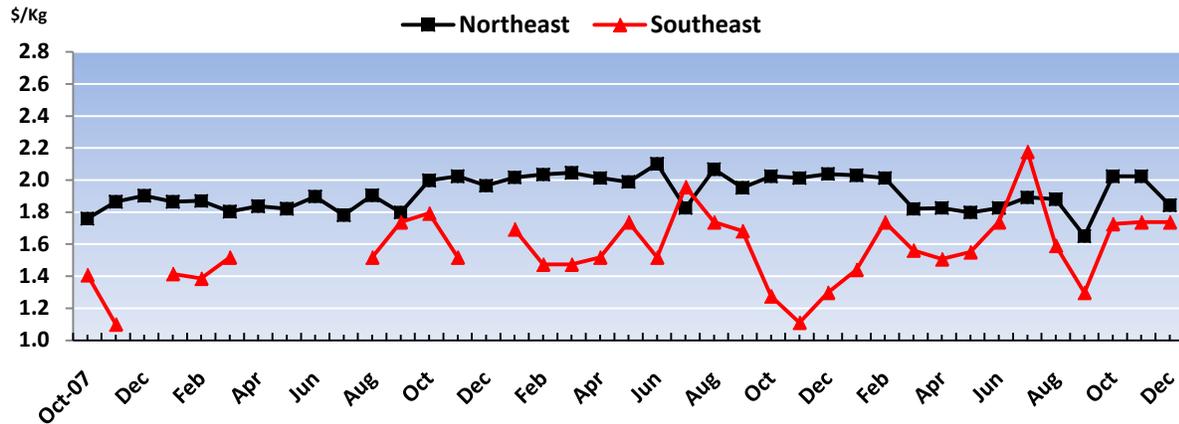
Figure 2.16: Monthly retail prices for organic and conventional bananas, 2007–2010 (\$/kg)



Source: USDA/AMS 2011

Figure 2.17 illustrates the monthly retail price for organic bananas in the U.S. Northeast and Southeast regions from October 2007 through December 2010. The data sets of retail prices come from different stores reporting their weekly prices to the USDA/AMS. Northeast stores have been reporting retail prices more consistently than Southeast stores. Overall, retail prices in the Northeast appear to be more stable and higher than prices in the Southeast. Retail prices of organic bananas in the Northeast ranged from \$1.65 to \$2.01 per kilogram while prices in the Southeast fluctuated between \$1.1 and \$2.1 per kilogram. Consumers in the Northeast pay higher prices for organic bananas; on average, they have paid \$1.91 per kilogram while consumers in the Southeast have paid \$1.56 per kilogram in the last three years.

Figure 2.17: Monthly retail prices for organic bananas, 2007–2010, U.S. Northeast & Southeast

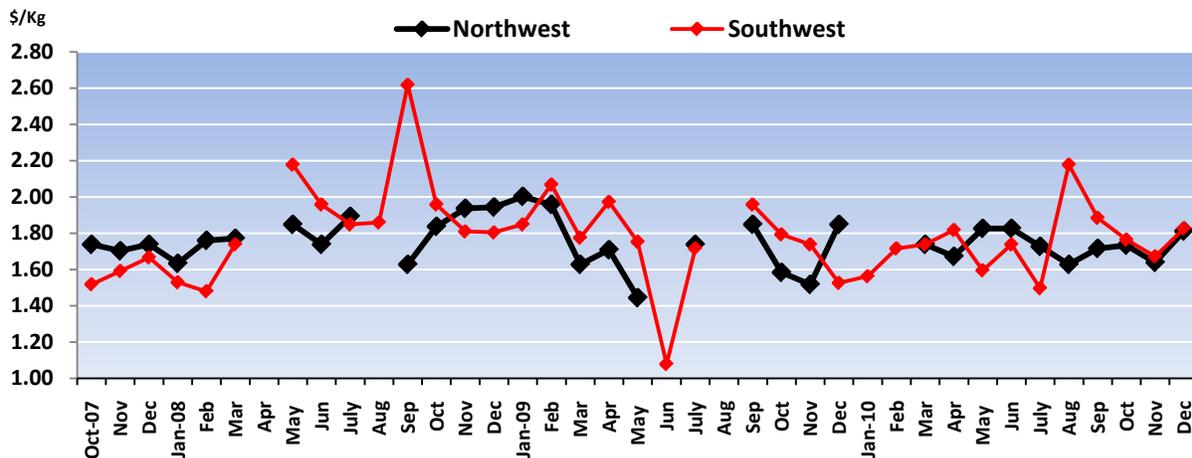


Source: USDA/AMS 2011

Retail price behavior on the U.S. West Coast was also considered. Particularly, the U.S. Northwest and Southwest regions were included in this report. The Northwest includes four States: [Oregon](#), [Washington](#), [Idaho](#), [Montana](#), and [Wyoming](#). The Southwest includes six states: [Arizona](#), [California](#), [Colorado](#), [Nevada](#), [New Mexico](#), and [Utah](#).

As shown in Figure 2.18, retail prices in the Northwest appear to be more stable than prices in the Southwest. Retail prices of organic bananas in the Northwest ranged from \$1.44 to \$2.00 per kilogram while prices in the Southwest fluctuated between \$1.07 and \$2.61 per kilogram.

Figure 2.18: Monthly retail prices for organic bananas, 2007–2010, U.S. Northwest & Southwest



Source: USDA/AMS 2011

2.5 Demand Estimates for Fresh Bananas in the U.S. Market

Several studies have focused on consumer perceptions and preferences toward organic foods. Some studies have estimated the willingness to pay for organic products; however, these studies used stated preference data rather than market data. Recently, Lin et al. (2009) using retail purchase data investigated the U.S. demand for organic and conventional fresh fruits. The study included five major conventional and five major organic fruit categories (apples, bananas, grapes, oranges, and strawberries) and two catch-all categories for other conventional and other organic fruits, for a total of 12 fruit categories. It was found that **the demand for organic fruits is price elastic** whereas **the demand for conventional fruits is price inelastic**.

The estimated own-price elasticities for organic bananas and conventional bananas are -3.19 and -0.70 , respectively. As expected, these elasticities are negative; also, they are found to be highly significant at the 1% level. Results suggest that when the price of organic bananas is reduced by 1%, the quantity demanded is expected to increase by 3.19% while a 1% reduction in the price for conventional bananas increases the quantity demanded by 0.7%. In other words, the own-price elasticity of demand for organic bananas is elastic which means that the demand for organic bananas is very responsive to changes in price. A possible explanation for this lies in the fact that there are many “marginal” organic banana purchasers. Such consumers will purchase organic bananas as long as they remain within a given price range. An increase in the price of organic bananas will result in a disproportionate fall in the quantity of organic bananas purchased by “marginal” consumers. On the flip side, a small lowering of the price of organic bananas will bring about a substantial increase in the quantity of organic bananas demanded. This bode well for the future of organic bananas in the United States where prices are likely to fall slightly over the coming years as availability increases.

The study also estimated the income elasticity of demand for organic bananas which is a measure of the responsiveness the demand for a good to a change in the income of people demanding that good. Estimated income elasticity for organic bananas was 0.81, implying that an increase in disposable income will lead to a rise in demand. The fact that the income elasticity is greater than zero but less than 1 also implies that a 1% decline in disposable income will cause the demand for organic bananas to fall but by less than 1% and vice versa. This appears to be borne out by the current recession which saw a decline or flattening out of consumer income reflected in only a slowing down of the rate of growth in the demand for organic bananas (see Figure 2.9).

In general, the above findings imply that the recovery of the U.S. economy should bode well for the organic banana market as an increase in disposable income will result in an increase in the quantity of organic bananas demanded. Also, the fact that the demand for organic bananas was found to be price elastic implies that any decline in prices will result in an expansion of the market as quantity demanded will increase.

SECTION 3. RELEVANT D.R. BANANA SECTOR ISSUES

3.1 Producer Issues

The majority of banana producers in the Dominican Republic are small-scale farmers. Many are members of the 15 producer associations or cooperatives through which support and assistance is provided for the packaging and marketing of the bananas. One producer group has as little as 8 members while the membership in four other groups exceeds 200. Two groups do not have any female members. Among the others, the percentage of female members range from a low of 3% in Máximo Gómez to a high of 22% in ASOBANU (Quiles 2010). The Export and Investment Center of the Dominican Republic (CEI-RD) estimates 80% are small-scale producers farming less than 3 hectares. This is compounded by land tenure challenges since most producers do not have title to the land that they farm (Vargas, 2011). As a consequence, they have difficulty accessing credit. More than 50% of the producers in some associations, such as Máximo Gómez, ASEXBAM, and BANELINO, occupy less than 50 tareas.² In other associations, such as ASOANOR and ASOBANU, the situation is reversed, where less than 50% of the members farm fewer than 50 tareas (Quiles 2010). Given the prevailing producer circumstances, an underlying issue is the need to develop production and marketing strategies that can serve to increase the income of banana producers in the Dominican Republic. The following represents a synopsis of critical banana production issues:

- 1) **Three output product groups:** Banana production encompasses conventional, organic, and fair-trade bananas, with the majority producing either organic or fair-trade bananas
- 2) **Possibility of inadvertent ‘contamination’ of organic farms:** Because producers make the decision on the type of production, in instances where conventional and organic farms are adjacent to each other, the organic farms may become ‘contaminated, and risk losing their organic status
- 3) **Smaller but tastier fruit:** Prevailing agronomic conditions constrain the Dominican Republic to produce a banana that is physically smaller (also sweeter and tastier) than those produced by competing countries in Latin America, but this product characteristic is not advantageous in some markets
- 4) **Labor and input challenges:** There is a shortage of farm labor and agricultural inputs are costly (small-scale producers utilize family labor for sorting, packing, and other post-harvest operations to optimize their returns, while some large-scale producers actively pursue the legalization of status of Haitian workers in order to comply with the requirements of fair-trade certification, although the status offered to the Haitian farm labor is not equivalent to that of the D.R. citizen which creates a discrepancy that may result in de-certification by FLO-CERT, the inspection and certification arm of Fair-Trade International)

² Sixteen (16) tareas are equivalent one (1) hectare.

- 5) **Plant health challenges:** Currently, black sigatoga disease threatens organic banana production in the Dominican Republic because the disease is not easily controlled without the use of chemicals, so the need for a coordinated country-wide management strategy to contain the spread of black sigatoga has been strongly recommended
- 6) **Certification challenges:** Obtaining certification is costly (there is usually an initial fee of about \$2,000 for the initial visit of the certifying agency to process the application for certification, as well as a similar annual fee for monitoring the maintaining of the certified status and a nominal fee of about \$25.00 for each transaction certificate; producers who are members of an association or cooperative may sometimes receive some assistance in meeting the costs of certification)
- 7) **Post-harvest handling issues:** The weak internal infrastructure within the Dominican Republic contributes to fruit bruising that significantly influences fruit quality upon maturity and causes related post-harvest losses; in addition, collecting shipments from several small producers increases costs and the time to consolidate the export consignment
- 8) **Public sector support areas:** A number of areas were identified as being suitable for public sector support, including drainage and irrigation support, particularly in Azua and neighboring areas; the improvement of farm access roads; more facilitative credit arrangements, particularly for the smaller farmers; and agronomic and other technical assistance to improve production efficiency

3.2 Market Access Issues

In general, D.R. banana producers are more attracted to the EU market because of the more attractive prices offered there, compared to the prices obtainable in U.S. market. In addition, accessing the U.S. market poses a key challenge for bananas from the Dominican Republic since these are smaller, though sweeter, than the competing product from Latin American countries, and U.S. consumers are often extremely size conscious about fruit. Also, since bananas are sold by unit weight, the U.S. retailer suffers a loss when purchasing the smaller fruit. As a consequence, despite being acknowledged as tastier, D.R. bananas are somewhat at a disadvantage in the U.S. market. The following represents a synopsis of the critical market access issues for D.R. bananas into the U.S. market:

- 1) **Product health:** Phytosanitary issues are a major concern of U.S. authorities; the CEI-RD revised its export procedures and increased its monitoring and supervision of banana exports after 449 containers destined for the United States were rejected in one month a few years ago
- 2) **Fruit size and quality:** Fruit quality is also a concern for the typical U.S. importer who seeks a fruit that is relatively blemish free; in light of the phytosanitary concerns, the price differential between the two markets and because the typical EU importer is perceived to be less stringent on quality, the U.S. market has been described by some D.R. producers as a 'high risk market for

a low price' (while the size of the fruit may not be an overwhelming problem, the importance of color and lack of blemish have been emphasized as critical quality concerns)

- 3) **Consistent scheduling and delivery:** Timeliness of delivery influenced by 'transport logistics' is another issue that is often subsumed under the phrase 'quality issues'; importers develop ripening and distribution schedules based upon the shipping information provided, so an unexpected disruption of these schedules, whether influenced by shipping changes or otherwise, negatively influences the desire of the importer to source D.R. bananas
- 4) **Shipping and port costs:** Shipping costs to the United States are high in comparison to shipping to the European Union and available vessels are not dedicated to bananas (the need to use refrigerated containers for controlled atmosphere adds to the cost of shipping, which makes shipping D.R. bananas to Florida more costly than shipping to Europe); the volume of consignments shipped by the multinationals enable them to negotiate special low rates with shipping companies, such that the Dominican Republic will find it difficult to compete; ancillary port charges can be high, contributing to increased costs of trade; and some D.R. producers are faced with added 'informal' shipping charges as consignments are transmitted to the ports
- 5) **Prior U.S. market experience:** Despite the cost of shipping, a few D.R. producers export bananas to markets in the U.S. East Coast and Canada via New York; generally, no difficulties are encountered when volumes were low at one or two containers weekly, but when volumes increase to 4 or 5 containers weekly, brokers were pressured by the multinationals to desist from purchasing D.R. bananas (e.g., a representative from Boston expressed ambivalence about resuming trade with the Dominican Republic, acknowledging that while the quality was good despite the fruit size being small, perhaps D.R. organic bananas would do better in the U.S. market; he suggested that the risk of not selling a consignment of D.R. bananas outweighed the likely rewards obtainable, observing that the cost of ocean freight was 'not too bad' and may be affordable with the right contract and that the summer period is better for D.R. bananas)
- 6) **Import support services:** The services of brokers are required for accessing the U.S. market, in contrast to accessing the EU market
- 7) **Market entry and penetration prerequisites:** Extensive intelligence on the requirements of the potential export market will greatly facilitate successful entry into the market (one importer suggested that it will be more prudent for the Dominican Republic to focus its attention on wholesalers and distributors since the multinationals have the retail market secured through long-term contracts, and because the bigger companies are now partnering with retailers, he noted that perceived new entrants at the retail level are likely to be squeezed by price and access to extensive resources; other importers noted that to successfully penetrate the U.S. market, the Dominican Republic will have to be able to compete on price and quality which may entail selling at reduced prices or on thin margins to get a foot hold in the market, and that in a 'down economy' where the emphasis is on quality and price, branding is unlikely to be successful)

- 8) **Payment parameters:** In the U.S. market, payment is made on a 25- to 60-day cycle that may prove inconvenient for small producers who are dependent on a more regular income stream

3.2 Certification Considerations

Producers of organic and fair-trade bananas must have their production processes certified that relevant standards are satisfied. For the U.S. market, the organic standards are established by the USDA's National Organic Program of the United States Department of Agriculture (USDA/NOP). Fair-trade standards are established by Fair Trade International (FLO) and monitored by FLO-CERT which is responsible for inspecting and certifying producer organizations and auditing traders. With respect to the production of D.R. organic bananas, Control Union (CU), the Institute of Marketecology (IMO), and BCS- Oeko Garantie GmbH (BCS) are three of the certifying agencies accredited by USDA/NOP to issue certification about the compliance with established organic standards (USDA/AMS 2011). These compliance certificates are issued to participants in the value chain to confirm concurrence with the standards established by the USDA-NOP standards.

In general, two types of certificates are usually issued to value-chain participants (VCP) who seek USDA/NOP compliance: Scope Certificate (SC) and Transaction Certificate. The scope certificate is valid for 1–3 years and lists all sub-categories of products for which the VCP has been audited and certified compliant to produce. The Scope Certificate is for marketing purposes only. A Transaction Certificate (TC) is required for each shipment that the producer sends to the buyer. The TC records details such as the cargo's weight, the purchase order, the bill of lading, and other claims pertinent to compliance with the standards of the USDA/NOP, and confirms to the buyer that the TC indeed meets the standards it claims to satisfy. There is a nominal fee for the issue of each TC. All certifying bodies have the capability to issue both types of certificates.

CU has established an elaborate client information system and database to monitor field production and requests for TCs. The system uses GPS features and includes data on farm boundaries, average yields, and other production parameters. Given that the boundaries and average yields are known and the GPS parameters are recorded, it allows the computation of a mass balance on each production unit every time a TC is requested. The producer is able to upload the relevant data, and if the mass balance is correct, the TC is automatically issued. D.R. producers cultivate conventional, organic, and fair trade bananas, with several producers cultivating a combination of either conventional and fair-trade bananas or organic and fair-trade bananas.

Many D.R. banana producers have observed that the process of certification is costly. Costs range between \$1,000 and \$3,200 per year for the individual producer, depending upon the size of the farm. In some instances, farmer associations and cooperatives absorb some of the certification costs for the individual producer. In addition, sometimes producers are faced with an investment cost to maintain the desired certification standards.

The issue of establishing a national certification body is of interest to many in the Dominican Republic. The Junta Agroempresarial Dominicana (JAD) is actively working to become a certifying agency. In this

regard it is collaborating with Flo and other related agencies. A national certifying agency will likely reduce the cost of certifications to the producer (Latin American countries with national certifying agencies accredited by the USDA/NOP include Brazil, Bolivia, Costa Rica, Guatemala, Mexico, and Peru).

3.4 Shipping Considerations

In a highly competitive global economy, transportation cost is a significant determinant of a country's trade competitiveness. Several studies have indicated that physical distribution costs often represent almost half of the marketing costs of a product. A comparison was undertaken of the freight rate for shipping 40-foot reefer containers of bananas from the main organic-banana-producing countries to the U.S. ports in New York/New Jersey, Miami, and Los Angeles. The information was obtained from Global Shipping Costs, an online shipping service provider. As pointed out at the website, the Shipping Act of 1998 reshaped the regulatory environment, giving vessel operators the ability to use confidential rate agreements. Consequently, much of the exact shipping rates fall under the special rate category and are not readily available to the public since these rates are given by carriers to shippers as a reward for regular use or large-quantity shipments. In this situation, the shipper and carrier negotiate a rate for a particular service, with the terms of the rate, service, and other variables finalized in a contract between the two parties. Unfortunately, many small business owners do not have the volume of shipping needed to take advantage of commodity rates. The rates shown below (taken from the website) are based on weighted average of a group of rates on a given route and are therefore only proxies.

As shown in Table 3.1 in the case of the New York/New Jersey port, the Dominican Republic has a clear (potential) competitive advantage over its main rivals both in terms of transit time to the United States and the freight costs. Of the six supplying countries chosen, the Dominican Republic's transit time was the shortest (4 days) and Peru's transit time was the longest. In terms of freight cost, the Dominican Republic enjoys a 29–150% cost advantage over its rival.

With respect to the U.S. South Coast, the situation was much different. While the Dominican Republic and Guatemala had the shortest transit times (2 days), Ecuador had the lowest shipping costs. Based on the information provided in Table 3.1, the shipping cost from Ecuador to Miami was \$395, or 10% less than shipping from the Dominican Republic to Miami. This was in spite of the fact that the distance from Ecuador to Miami is almost three times that from the DR port to the Miami port. A possible explanation for this is due to the number of shipping lines plying the route and the volume of bananas exported from Ecuador. There were no cost differences among the Dominican Republic, Colombia, Costa Rica, and Guatemala.

With regards to the U.S. West Coast, for shipments of bananas to the Los Angeles port, both Guatemala and Honduras had the shortest transit time as well as the lowest freight costs. Compared with the Dominican Republic, Guatemala and Honduras had cost advantages of \$1,172 and \$1,325, respectively. The Dominican Republic had a slight cost advantage over Colombia of about 6%, but was the same in the case of Costa Rica.

Table 3.1: Estimated shipping costs and cost advantage for a 40-foot reefer container

Country	Departing Port	Receiving Port	Distance NM	Transit Time days	Freight Cost \$	Advantage	
						\$	%
Dominican Republic	Manzanillo	New York/New Jersey	1,268	4	2,485	-	-
Colombia	Santa Marta	New York/New Jersey	1,770	5	3,468	983	40%
Costa Rica	Puerto Limon	New York/New Jersey	1,907	6	3,735	1,250	50%
Ecuador	Puerto Bolivar	New York/New Jersey	1,712	5	3,355	870	35%
Guatemala	Puerto Barrios	New York/New Jersey	1,682	5	3,296	811	33%
Honduras	La Ceiba	New York/New Jersey	1,641	5	3,214	729	29%
Peru	Callao	New York/New Jersey	3,175	10	6,219	3,734	150%
Dominican Republic	Manzanillo	Miami	593	2	3,812	-	-
Colombia	Santa Marta	Miami	936	3	3,812	0	0%
Costa Rica	Puerto Limon	Miami	962	3	3,812	0	0%
Ecuador	Puerto Bolivar	Miami	1,745	5	3,417	-395	-10%
Guatemala	Puerto Barrios	Miami	767	2	3,812	0	0%
Honduras	La Ceiba	Miami	2,280	7	4,466	654	17%
Peru	Callao	Miami	2,280	7	4,466	654	17%
Dominican Republic	Manzanillo	Los Angeles	2,612	8	5,118	-	-
Colombia	Santa Marta	Los Angeles	2,765	8	5,415	297	6%
Costa Rica	Puerto Limon	Los Angeles	2,612	8	5,118	0	0%
Ecuador	Puerto Bolivar	Los Angeles	3,103	9	6,079	962	19%
Guatemala	Puerto Barrios	Los Angeles	1,936	6	3,793	-1,325	-26%
Honduras	La Ceiba	Los Angeles	2,014	6	3,945	-1,172	-23%
Peru	Callao	Los Angeles	3,619	11	7,089	1,971	39%

Source: Global Shipping Costs http://www.globalshippingcosts.com/calc/index.php?type_cargo=ocean#lat=19.64259&lon=-71.71875&zo

SECTION 4. PRICE DISTRIBUTION ANALYSIS OF THE VALUE CHAIN

The value chain is defined as a system of interlinked activities that various “actors” perform to transform inputs into outputs through value addition at each stage and with the assistance of other parties who provide supportive services. It therefore encompasses all the activities involved in making a product and delivering it to the final consumer. As pointed out by the FAO Committee on Commodity Problems (2003) the value chain analysis is based on a comprehensive characterization of input-output relationships from input suppliers to retailers and the coordinating mechanisms that guide activities at each stage. It therefore can involve consideration of the technical transformation of products, pricing, costs and margins, number and size of firms at each stage, barriers to entry, market power and the sharing of benefits from innovation, product differentiation, and diversification. Kaplinsky (2004) stated that among other things, value chain analysis provides a tool for focusing dynamic shifting of producer rents through the chain. A key consideration is the “governance” of the chain which is defined as the power to set the rules; determine who participates in the value chain; what is produced, how, and when; and the asymmetries in the market (FAO 2003).

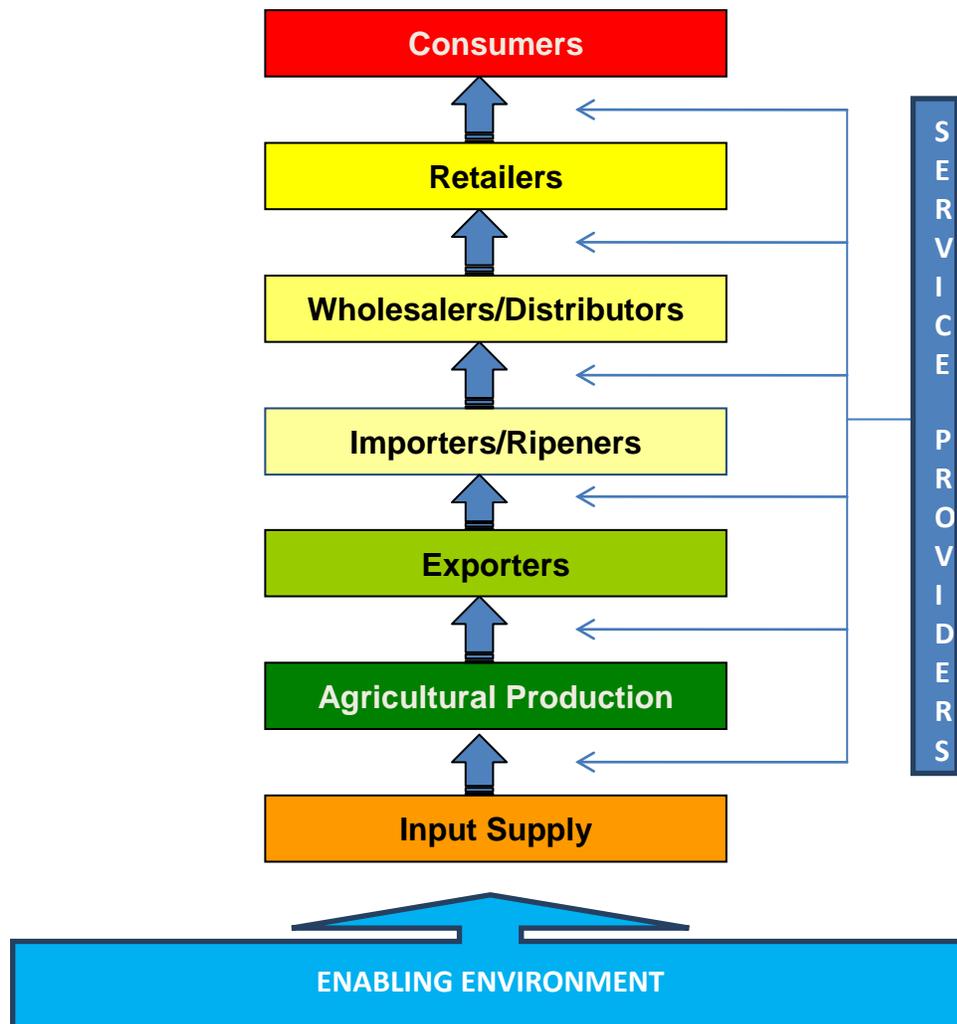
In this chapter, we take a brief look at the “ripe” banana value chain as it relates to the chain of activities involved in producing and exporting bananas from the Dominican Republic to the U.S. market. The information provided here does not represent an in-depth analysis of the value chain. Our main objective was to conduct a rapid analysis of the chain as it relates to the Dominican Republic and the U.S. market, focusing to the extent possible on price distribution along the chain, and to identify the specific challenges and opportunities facing the local chain actors.

4.1 Price Distribution along the Local Links of the Value Chain

Figure 4.1 below depicts the typical value chain for bananas exported from the Dominican Republic. The supply and value chain involves the production; packaging; domestic and international transportation; and marketing, handling, and selling at the retail outlets, as well as the service providers and supporters who facilitate product movement along the chain.

In the case of the Dominican Republic, there are only a few input suppliers, mainly organic fertilizers and to a lesser extent bio-pesticides, making the market for inputs less competitive. Currently, production of organic bananas in the Dominican Republic relies extensively on the use of labor, rather than on manufactured organic inputs, as growers complain that the cost of organic fertilizers is too expensive. There is not much effort to bulk purchase inputs and to make organic fertilizers available to growers. Also the link between the growers and input suppliers does not appear to be strong.

Figure 4.1: Banana value chain



Source: Evans 2010 (unpublished)

With respect to banana production, as reported elsewhere, organic export bananas were initially grown almost entirely by small producers, but their importance has declined markedly over the past decade. Whereas small growers used to produce more than 90% of the organic bananas in the late 1990s, they currently produce less than 50% of them. Of the 12,545 hectares planted in bananas, more than half (54%) are dedicated to organic production. Most of the small producers (80%) are organized into producer associations cultivating on average less than one hectare. They rely on family labor as well as hired labor to meet the demand of intensive organic farming. Currently, there are 18 domestic banana companies or producer associations that assist in coordinating the functions of banana collection,

washing, and packing. In all but one case, the growers and family labor are the ones carrying out these functions using facilities provided by the associations.

There is a strong link between the growers/producer associations and the exporters. There are a total of about ten companies that have **control** of the banana export business in the Dominican Republic. Five of these (Plantaciones del Norte 30%; BANAMIÉL 25%; SAVID 13%; EKOBAN 13%; and BANAMA 10%) account for about 91% of the total sales of organic bananas, representing about 90% of organic banana farm (Table 4.1). The exporters assist with arranging shipping (inland and overseas) also identify markets and prepare necessary documentation. They provide guidance on packaging, marking and labeling and arrange for the bananas to be packed and containerized. As mentioned elsewhere in this report, more than 95% of the Dominican organic banana exports go to the European market.

Table 4.1: Participation of the export companies in the Dominican Republic banana market

Export Companies	Selling Volume (%)	Producers (%)
Plantaciones del Norte	30	42
BANAMIÉL	25	30
SAVID	13	8
EKOBAN	13	8
BANAMA	10	2
Horizontes Orgánicos	4	7
OTROS	3	2
COPROBATA	2	1
Total	100	100
<i>Fuente: Informaciones de Líderes de la industria, 2010</i>		

The main actors involved in the overseas segment of the value chain are the importers (sometimes referred to as receivers), ripeners, wholesalers/distributors, and retailers. In the case of the Dominican Republic, most of the D.R. bananas exported to the United States are done by independent importers, as none of the major international banana companies, such as Dole, Chiquita, and Fresh Del Monte, currently operate in the Dominican Republic (Dole imported bananas from SAVID in 2006); Chiquita, Dole, and Fresh Del Monte Produce, Inc. account for about 85% of U.S. banana imports. These independent importers may either contract for space on vessels controlled by the major banana companies, contract with regularly scheduled liner container services, or charter their own reefer or container vessel. A consequence of this and the small volume exported from the Dominican Republic to the United States is that the shipping time is longer than expected as some of the vessels stop at other ports in order to ensure full loads. It has been reported that transit time from the Dominican Republic to

the United States sometimes is in excess of 12 days (instead of 3–4 days), compared to 9 days from South American ports that are much farther away. Most of the importers contract ripening facilities or sell to wholesalers who arrange for this function to be carried out. We did not ascertain strong relationships between the importers we interviewed and exporters in the Dominican Republic. A possible reason for this is the fact that exporters are much more geared towards the EU market and have over the years developed a closer relationship with EU importers. In addition, a couple of the importers interviewed viewed the trade with the Dominican exporters to be high risk relative to sourcing from countries such as Ecuador and Peru.

In the U.S. market, most of the wholesaling functions are carried out by the big banana companies, although there are several small wholesalers operating in the market. In the case of D.R. bananas marketed in the U.S. market, the bananas are handled mainly by small wholesalers. These wholesalers supply mainly small retailers such as roadside vendors; small supermarkets; and specialty stores, including convenience stores and ethnic-oriented stores. The large U.S. grocery buyers (including club stores), which control around 72 % of U.S. grocery sales, are supplied by big banana companies that have long-term contracts with these retailers.

4.2 Price Distribution along the Supply Chain

The cost to produce and deliver organic bananas to U.S. consumers includes the costs of the bananas to the exporter; transportation to the port of shipment and loading costs; import charges (freight, insurance, and other charges); U.S. import duties (currently zero for bananas in the United States), ripener costs; wholesaler handling and distribution costs; and supermarket marketing and retail costs. The prices paid by consumers at the supermarket reflect these costs, as well as the profits of growers, exporters, distributors, and supermarkets.

Table 4.2 shows the costs of production for fair-trade organic bananas based on information obtained for the cluster. Average yields are estimated at around two boxes per tarea, or about 1,660 boxes per hectare per year. The data in the table suggest a cost of production, including packing and administrative fees, of about \$11.01 per box. The price paid to the grower for fair-trade organic bananas is \$8.75 per box at the farm gate and \$12.30 per box FOB at the port.

Based on our desk research as well as interviews with key industry personnel, estimates of the price distribution along the value chain were calculated for fair-trade and organic certified, organic, and conventional bananas exported from the Dominican Republic to the Boston market (Table 4.3). The Boston market was chosen based on the availability of data and the fact that the U.S. East Coast represents the most promising market for bananas from the Dominican Republic. Interviews with importers and wholesalers provide most of the information used on pricing the bananas in this market.

With respect to double certified organic bananas, the 2010 average retail price in the Boston market was determined to be \$39.8 per box, or \$2.20 per kilogram. Thus a payment of \$8.75 per box to the grower at the farm gate represents a 22% share of the final product. The exporter's charge, which includes the fair-trade premium, was estimated at \$3.55 per box, or 9% of the final retail price of \$39.80

per box of the banana. This gave rise to the total FOB price (which includes the costs of inland transportation and terminal handling charges) at the D.R. port of \$12.30, resulting in a total share of 31% of the final consumer price going to the exporters and producers. As indicated in Table 4.3, the ocean freight charges, insurance, and other ancillary charges (commission, handling fees, and ground transportation) to ship a 40-foot refrigerated container to the Boston market was estimated at \$6.00 per box, or 15 percent (including the importers mark up of about \$1.20 per box) of the final product. When this was added to the exporter's price, the estimated importer's price amounted to \$18.30 per box (\$1.01/kg), representing 46% of the final retail price.

Based on discussion with market participants, the wholesale charges (refrigeration, ripening, transportation, and markup) during 2010 were about \$5.90 per box and \$5 per box for organic and conventional bananas, respectively. These charges averaged 19% and 28% of the price paid by consumers for organic and conventional bananas, respectively, during 2010. To compute the wholesale charges we applied \$6 per box to the importer's price. Thus the wholesale price for fair-trade bananas sold in the Boston market was calculated as \$24.30 per box (\$1.34/kg), accounting for 61% of the final price to the consumer.

Retail charges (including markup, stock out, losses, and other costs) for organic bananas in 2010 were about \$0.91 per kilogram, representing on average 40% of the price paid for the final consumer, while the supermarket charges for conventional bananas were \$0.30 per kilogram, accounting for 28% of the price paid for the consumer. To the whole price was added the retailer's charges, estimated at \$15.50 per box, or 39% of the final price to the consumer.

Table 4.3 also shows examples of price distribution along the supply chain for organic and conventional bananas exported from the Dominican Republic to the New York market. The procedure used was similar to that outlined above, with the exception that the prices to the growers and exporters were determined by working backwards from the average observed market prices for the products and information provided by the market participants to derive the residual price to exporters and growers. In other words, these prices would have to be obtained in order to make the D.R. bananas competitive in the market.

In the case of organic bananas, given the 2010 average retail price of \$1.74 per kilogram observed in the market and the various marketing charges along the value chain, the FOB (residual) price at the port in the Dominican Republic was calculated at \$8.00 per box. In the case of conventional bananas, the FOB (residual) price was calculated at \$5.00 per box. These prices represent 25% and 26% of the final retail price for organic and conventional bananas, respectively. Since only a small amount of D.R. bananas were exported to the United States in 2010 and the majority were under the fair-trade label, a comparison of these residual prices with actual prices received by the growers/exporters was not possible. Furthermore, our investigation revealed that in 2010 no conventional bananas were exported from the Dominican Republic to the United States.

Table 4.2: Dominican Republic banana production costs (US\$/18.49 kg box), July 2010

	Infrastructure Cost	Years	Annual Cost	Cost per 18.14 Kilogram Box
Crop establishment costs				
Infrastructure cost	3,060,000	15	204,000	0.2
Irrigation system	1,032,750	20	51,637.50	0.05
Land preparation				0.16
Planting				0.2
Total crop establishment costs				0.61
Cost cultural practices and crop maintenance				
Irrigation				1.2
Weed control				0.43
Fertilizers				1.73
Crop maintenance				1.71
Pests and diseases control				0.74
Cleaning of irrigation canals and drainages				0.05
Total cultural practices and crop maintenance costs				5.86
Harvest and packing				
Infrastructure packing plant				0.13
Harvest: labor				0.69
Packing: labor				0.62
Packing and harvest equipment				0.04
Packing aterials				2.19
Total harvest and packing costs				3.67
Administrative costs				
Certifications				0.03
Operational expenses				0.84
Total administrative costs				0.87
TOTAL PRODUCTION COSTS				11.01
Farm gate price				8.75
F.O.B. price				12.3
Return if box is sold at the farm gate price				(2.26)
Return if box is sold at F.O.B. Price				1.29

Table 4.3: Estimated price distribution along value chain to New York market

Value Chain	Fair-trade Organic				Organic				Conventional			
	Cost (\$/box)	Price (\$/box)	Price (\$/kg)	% final price	Cost (\$/box)	Price (\$/box)	Price (\$/kg)	% final price	Cost (\$/box)	Price (\$/box)	Price (\$/kg)	% final price
Producer's Price (farm gate)		8.75	0.48	22%		5.50	0.30	17%		4.00	0.22	21%
<i>plus exporter's costs and margin</i>	3.55			9%	2.50			8%	1.00			5%
Exporter's Price (FOB Port Dominican Republic)		12.30	0.68	31%		8.00	0.44	25%		5.00	0.28	26%
<i>plus ocean freight, ancillary & insurance charges to NY</i>	6.00			15%	6.00			19%	5.00			26%
Importer's Price		18.30	1.01	46%		14.00	0.77	44%		10.00	0.55	51%
<i>plus ripening and distribution costs & margin</i>	6.00			15%	6.00			19%	5.50			28%
Wholesale Price		24.30	1.34	61%		20.00	1.10	63%		15.50	0.86	79%
<i>plus retailers costs & margin</i>	15.50			39%	11.50			37%	4.00			21%
Retail Price		39.80	2.20			31.50	1.74			19.50	1.08	

SECTION 5. ORGANIC AND FAIR-TRADE BANANA DEMAND CONSIDERATIONS IN UNITED STATES

5.1 Survey Methodology and Structure

A structured survey of importers, wholesalers, and retailers was undertaken. This was complemented by in-person or telephone interviews of market participants. A sample frame was developed, drawing from resources such as the internet, agencies' lists, associations' lists, networking among market participants, and local knowledge. The sample frame representation was drawn from across the United States, inclusive of the East Coast (north and south), Central, and West Coast states. In-person and or telephone interviews covered a similar scope. The resulting sample frame comprised a total of 73 market participants, with 15 importers, 30 wholesalers, and 28 retailers.

A similar structured questionnaire was administered to each group. There were four general sections to each questionnaire:

- 1) Geographical issues seeking location and general market information
- 2) General market issues pertaining to all bananas (conventional, organic, and fair-trade), seeking information on the trade: quantities, prices, trends, sources of supply, and quality standards
- 3) Specific market issues pertaining to organic bananas, seeking information on the trade: quantities, prices, trends, sources of supply, and quality standards
- 4) Specific market issues pertaining to fair-trade bananas, seeking information on the trade: quantities, prices, trends, sources of supply, and quality standards

The majority of the questionnaires were distributed and submitted electronically. Some were shared during the in-person interview process. The overall response rate among market participants surveyed was 23.3%. When examined by sub-group of respondents, the statistics revealed that in the importer group, 46.6% responded, 33.3% declined, and 20% did not reply; in the wholesaler group, 16.6% responded, 10% declined, and 73.3% did not reply; and in the retailer group, 17.9 % responded, 10.7% declined, and 71.4% did not respond.

A summary of the survey results is presented below, based upon the indications of the respondents and reported for each category of respondents.

5.2 Importers' Perspectives

Geographical Issues

Importers sourced bananas from Ecuador, Colombia, Peru, the Dominican Republic, Costa Rica, and Guatemala. The level of imports remained the same in 2009 and 2010. With respect to banana puree, the majority of respondents indicated that there was no market for that product. One respondent who

is exploring the market observed that the item will likely be a costly ingredient, starting with organic or fair-trade products.

General Market Issues

The respondents distinguished between conventional, organic, and fair-trade bananas. Imports of conventional bananas averaged 14.9 million boxes in 2009, 15.4 million in 2010, and 15.9 million projected for 2011. For organic bananas, the respective statistics were 3.3 million boxes in 2009, 4.3 million boxes in 2010, and 4.8 million projected for 2011. For fair-trade bananas, the respective statistics were 50 thousand boxes in 2009, 62.5 thousand in 2010, and 43.8 thousand projected for 2011.

For many of the importers in 2010, the majority of their organic banana imports were also certified as fair-trade bananas. For these respondents, the U.S. market for fair-trade bananas was perceived to be greater than that for organic bananas. Conventional bananas were sourced primarily from independent farms/plantations, and organic and fair-trade bananas were sourced equally from company-owned and independent farms/plantations. The price per box of conventional bananas ranged between \$8.00 & \$11.00, and the price for organic and fair-trade bananas ranged between \$8.00 and \$19.00. Respondents perceived and reported a trend of increasing prices for the past two years. Conventional banana orders were reported as stable in a typical year, compared to organic banana orders which fluctuate for some importers. The drop in demand which usually occurs during the summer months was perceived to be influenced by school being out and by competition from other fruits, such as peaches nectarines, and plums. The demand for fair-trade bananas also fluctuated and was perceived to be similarly influenced. Some of the importers operated their own ripening rooms.

Specific Market Issues: Organic Bananas

Fruit size, blemish free, shelf life, packaging, and number of fingers were some of the product characteristics specified as critical for organic banana orders, and in general, these criteria were satisfied. Box weight limits and controlled temperature were the main packaging requirements stipulated, and these were generally satisfied (Figures 5.1 and 5.2). For the respondents, supplies of organic bananas were sourced from Peru (42.5%), Ecuador (38.75%), Colombia (25%), the Dominican Republic (6.67%), and other countries (3.33%). Supplies were sourced directly from the producer or indirectly through a third party, except for the Dominican Republic where third-party sourcing was the norm. Valid organic certifications and the maintenance of organic integrity throughout the supply chain were deemed as critical, and were perceived to be consistently satisfied. Reported losses on import consignments of organic bananas varied between 0% and 5%. It was suggested that these losses could be reduced or eliminated through liaising with producers and supply chain partners on improved handling practices. Respondents projected a growth in the market for organic bananas, influenced by consistent supply, higher consumer demand (stimulated by education and health perceptions), and lower retail prices than conventional bananas. Additional challenges included lack of quality supply, competition for space on shipping lines during peak periods, customs procedures at the ports, price volatility, multinational control of the market, and crown mold on some shipments. The ability to deliver

the required quantities, price competitiveness, quality consistency, and compliance with quality requirements were among the sourcing criteria assigned high scores of importance.

Specific Market Issues: Fair-trade Bananas

Fruit size, blemish free, shelf life, packaging, and number of fingers were some of the product characteristics specified as critical for fair-trade banana orders, and in general these criteria were satisfied. Box weight limits and controlled temperature were the main packaging requirements stipulated, and these were satisfied. Based on the survey responses, the main suppliers of fair-trade bananas were Peru (37.5%) and Ecuador (12.5%). Supplies were sourced directly from the producers in these countries as well as through third parties. In other countries, sourcing was entirely through third parties. Valid certification was considered as critical, and this was consistently satisfied. Reported losses on import consignment were as high as 5%. As with organic bananas, it was suggested that these losses could be reduced or eliminated with improved communication with producers and supply chain partners on improved handling practices. A growth in the market for fair-trade bananas was projected, influenced by consumer education on fair-trade fruit. Weak supply, high prices, and the reduction in the value of the U.S. dollar were perceived as the main challenges. As with organic bananas, the ability to deliver required quantities, price competitiveness, quality consistency, and compliance with quality requirements were among the sourcing criteria assigned high scores of importance.

5.3 Wholesalers' Perspectives

Geographical Issues

Although many of the importers received the product from specific suppliers, several were also open to receiving from other suppliers, with the majority selling to specific retailers over a wide geographical area. Respondents received bananas from Colombia, Ecuador, Peru, Costa Rica, and Guatemala. During 2009 and 2010, supplies from Colombia varied while supplies from the other countries increased.

General Market Issues

All wholesalers distinguished between conventional and organic bananas while the majority distinguished between organic and fair-trade bananas. Based on the survey responses, an average of 750 thousand boxes of conventional bananas was distributed in each of the years 2009 and 2010. A similar quantity was projected for distribution in 2011. For organic bananas, the average quantity distributed in 2009 and 2010 was 110 and 91.3 thousand boxes, respectively, with 97.3 thousand boxes projected for distribution in 2011. For fair-trade bananas, 5.7 thousand boxes was the average distribution in 2010, with 15 thousand being the average projected distribution for 2011. The majority of wholesalers operated a ripening room. The price per box of bananas ranged between \$11.00 and \$12.00 for conventional bananas, and between \$8.00 and \$12.00 for organic and fair trade bananas. The respondents perceive price trends as increasing for all three sub-categories of bananas, with distribution of all three being influenced by weather, supply issues, seasonality and the availability of other fruits.

Figure 5.1: Preferred size of fruit (a bit over-ripe with blemishes)



Figure 5.2: Required packaging of fruit



Specific Market Issues: Organic Bananas

Fruit size, blemish free, shelf life, packaging, and number of fingers were some of the product characteristics specified by wholesalers as critical for organic banana orders. Some of these criteria were not always satisfied. Box weight limits, controlled temperature, and vacuum packs were the main packaging requirements stipulated, and these were satisfied. The respondents purchased their supplies of organic bananas from importers who sourced from Peru (40%), Ecuador (35%), Colombia (30%), and other countries (20%). One wholesaler, who was also an importer, sourced organic bananas from Mexico. Some has contractual arrangements with their suppliers, with Del Monte, Dole, and Chiquita being the main organic banana labels (brands) distributed. Others included APPOSA, Banacol, Cerro Azul, Organics Unlimited, Pronatur, Urocal, and Turbana. Only a few wholesalers were prepared to distribute other organic banana labels (in this particular instance the supplier would have to be the grower or exporter). Wholesalers were able to document and provide their specifications for the certification procedures for organic bananas. These were perceived to be consistently satisfied, but occasionally quality was a concern. Reported losses on consignments of organic bananas distributed varied between 2% and 5%, but no suggestions were made for mitigating the losses. Respondents projected a growth in the demand for organic bananas, influenced by public education, good marketing, and product quality. Cultural differences and the language barrier with Latin American producers were perceived as challenges to the sourcing and distribution of organic bananas. The ability to deliver the required quantities; price competitiveness; quality consistency; good post-harvest handling practices; and compliance with quality requirements, food safety standards, and traceability requirements were among the sourcing criteria assigned high scores of importance.

Specific Market Issues: Fair-trade Bananas

Fruit size, blemish free, shelf life, packaging, and number of fingers were product characteristics specified as critical for fair-trade banana orders. All of these characteristics were usually satisfied, except for blemish free. Box weight limits, controlled temperature, and vacuum packs were the main packaging requirements stipulated, and these were satisfied. The respondents purchased their supplies of fair-trade bananas sourced from Ecuador (60%) and Peru (40%); some are also sourced from Mexico. Certification procedures from Fair Trade USA and USDA/NOP were critical for orders of fair-trade bananas, and were usually satisfied. Reported losses on consignments of fair-trade bananas distributed was 2%, but no suggestions were made for mitigating the losses. Respondents projected a growth in the market for fair-trade bananas, influenced by (consumer) education and marketing. The ability to deliver the required quantities; price competitiveness; quality consistency; good post-harvest handling practices; ease of communication; responsiveness to buyer specifications; and compliance with quality requirements, food safety standards, and traceability requirements were among the sourcing criteria assigned high scores of importance.

5.4 Retailers' Perspectives

Geographical Issues

Many retailers received products from specific wholesalers, yet some were also open to receiving from other suppliers. Respondents projected an average of 1.2 million shoppers annually, and estimated that an average of 53.3% of these consumers purchase bananas. In 2010, the retail of fresh bananas was increased from Ecuador, Peru, and Colombia. Compared to 2009 sales, respondents indicated that the quantities of bananas retailed from Colombia, Ecuador, and Peru increased in 2010. For the same period, retail levels from the Windward Islands remained the same while those from the Dominican Republic decreased.

General Market Issues

All respondents distinguished between conventional and organic bananas but only a small percentage differentiated between organic and fair-trade bananas. Respondents reported that retail levels for conventional bananas averaged about 5.2 million boxes for 2009, and projected 3.4 million boxes for 2011. For organic bananas, the average retail level reported was 48 thousand boxes in 2009, 55 thousand boxes in 2010, and projected at 62 thousand boxes for 2011. For fair-trade bananas, the average retail level was estimated at 4.5 thousand boxes in 2009, 5 thousand boxes in 2010, and projected at 5 thousand boxes for 2011. The price per box of bananas was reported at \$10.00 for conventional bananas and between \$21.00 and \$27.00 for organic and fair trade bananas. The majority of respondents perceived a stable trend in the prices for all three sub-groups of bananas over the past two years. Some retailers reported a seasonal fluctuation on the sales of conventional bananas, and those who carried organic bananas reported fluctuations in sales, based on promotions and increased sales during the winter months. Some retailers offered organic/fair-trade bananas if these were available from distributors. Fluctuations in sales were observed, apparently linked to the availability of supplies. No losses were reported for conventional bananas, but losses on consignments of organic and fair-trade bananas ranged between 2% and 10%.

Specific Market Issues: Organic Bananas

The product characteristics specified as critical for orders of organic bananas varied among the respondents. The majority indicated blemish free and shelf life while only a few cited fruit size and packaging, and no one indicated number of fingers. In addition, one respondent expressed concern about the level of ripeness (maturity) of the fruit. All respondents indicated that the requirements were satisfied. The majority of respondents perceived that the selling price per pound of organic bananas was stable during a typical year. More retailers perceived the price premium of organic bananas over conventional bananas to be stable than increasing. None perceived it as decreasing. From the retailers' perspective, organic certification was critical and the shippers (or others in the distribution chain) were responsible for ensuring proper certification. Dole, Del Monte, Chiquita, and Turbana were among the organic banana labels stocked by retailers, who also carry other organic labels. Some of the retailer

respondents were prepared to carry other organic banana labels in their outlets. Other suppliers were required to conform to organic certification, preferably in conjunction with fair-trade certification. One retailer, while expressing reluctance to deal with another supplier, indicated preparedness to purchase high-quality organic bananas from any producer. Reported losses on consignment of organic bananas varied between 2% and 10%. Some retailers mitigated their losses by channeling speckled bananas to their juice bar products or by composting the product. Retailers projected a growth in the market for organic bananas, influenced by consumer education and marketing through new retail outlets. Currently, none of these respondents indicated that special in-store promotions are carried for organic bananas. The ability to deliver required quantities; price competitiveness; quality consistency; good post-harvest handling practices; responsiveness to buyer specifications; and compliance with quality requirements, food safety standards, organic standards, and traceability requirements were among the sourcing criteria assigned high scores of importance. A minority of retailers had contractual arrangements with their suppliers, and these were consistently satisfied.

Specific Market Issues: Fair-trade Bananas

Seventy percent of the retailer respondents were aware of fair-trade bananas. Blemish free and level of ripeness (maturity) were two product characteristics critical for orders of fair-trade bananas, and these were usually satisfied. Certification procedures were seen as outside the retailers' remit. Retailers did not indicate any preference for specific fair-trade labels, nor did they indicate any contractual obligations with suppliers, although equal exchange was an acknowledged fair-trade product label. From the perspective of these respondents as a group, there was no objection to carrying another fair-trade banana label in retail outlets, but during individual in-person interviews, the issue of carrying additional product labels was expressed. Comparability of product was the only caveat mentioned. Losses on consignment of fair-trade bananas were perceived as minimal at 2%. The selling price of fair-trade bananas and the price premium over conventional bananas were perceived as stable during the year, yet sales fluctuated, apparently influenced by the irregularity of supplies. Retailers projected a growth in the market for fair-trade bananas, promoted by sales through new retail outlets. No special in-store promotions were reported by respondents for fair-trade bananas. The ability to deliver required quantities; price competitiveness; quality consistency; responsiveness to buyer specifications; and compliance with quality requirements and fair trade standards were among the sourcing criteria assigned high scores of importance.

5.5 Synopsis of U.S. Banana Market Demand Considerations

Conventional, organic, and fair-trade bananas are sourced from several Latin American countries, primarily Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Peru, and the Windward Islands. Three of these countries dominate the supply, with Ecuador and Peru being the major sources of organic and fair-trade bananas. Supplies are sourced by dedicated importers or firms that combine as importers and wholesalers. Consignments are purchased either directly from producers or through a third party in the country of origin. Banana sales from the Dominican Republic

are invariably through a third party. In general, respondents believe that there could be an increase in the demand for organic and fair-trade bananas.

Multinational firms control the U.S. banana market, and the established brands (Dole, Chiquita, and Del Monte) are the main ones sold. However, other brands such as Banacol and Turbana have established a niche, and others (Cerro Azul, Organics Unlimited, Pronatur and Urocal) are claiming a place in the market. Some retailers have indicated preparedness to stock other brands, provided they are of comparable quality. However, only a few wholesalers were willing to expand the scope of their sourcing of their supplies.

One importer/wholesaler emphasized that the securing of low-cost shipping to the United States is a challenge. He observed this is one area in the trading arrangements for bananas where multinationals, with dedicated shipping lines, have a distinct advantage.

In general, market participants share a common view of the product characteristics of high importance. Among these, price competitiveness and quality seem critical for organic and fair-trade bananas to secure a stronger market presence. In the view of one importer/wholesaler, if the price premium of the organic product exceeds \$2.00 (U.S dollars) per box, the organic product will be unable to successfully compete in the market.

SECTION 6. SWOT ANALYSIS OF D.R. BANANA SECTOR

The analysis of strengths, weaknesses, opportunity, and threat was conducted from the point of view of the Dominican Republic gaining market shares in the U.S. banana market. Consequently, the analysis focuses on only those issues relevant to the U.S. market.

6.1 Strengths

Factor	Comment
<ul style="list-style-type: none"> Tasty varieties 	<ul style="list-style-type: none"> This may be of limited value because U.S. consumers are more concerned with price and quality: they buy with their eyes
<ul style="list-style-type: none"> Geographical proximity of the Dominican Republic to the U.S. market 	<ul style="list-style-type: none"> Potential advantage not realized because, despite adequate shipping lines from the Dominican Republic to the United States, insufficient volume causes intermediary stops, extending travel time and negating the distance advantage. Also limits ability to negotiate favourable freight rates
<ul style="list-style-type: none"> Year-round availability 	<ul style="list-style-type: none"> Demand for the D.R. product is greatest during the fall months when supplies from Ecuador and Peru are at their lowest
<ul style="list-style-type: none"> Good climate and fertile soil, allowing year-round organic bananas production 	<ul style="list-style-type: none"> Less incidence of disease than in other Latin American countries
<ul style="list-style-type: none"> Well-organized producer associations 	<ul style="list-style-type: none"> Critical to facilitating organic certification, consolidating output, and promoting export quality
<ul style="list-style-type: none"> Fairly well-maintained roads to ports 	<ul style="list-style-type: none"> Upgrading access roads to smaller plantations is required, as well as investment in post-harvest handling systems and infrastructure

6.2 Weaknesses

Factor	Comment
<ul style="list-style-type: none"> Organic and or fair-trade certification is difficult and expensive for D.R. banana growers 	<ul style="list-style-type: none"> Compliance costs (record-keeping, infrastructure development, sanitation expenses) are proving to be more burdensome than certification costs
<ul style="list-style-type: none"> Relatively low education levels among growers makes record-keeping more difficult and expensive 	<ul style="list-style-type: none"> This is an area where public sector input can be usefully directed
<ul style="list-style-type: none"> Absence of national certifying agency (No D.R. agency recognized as a third-party certifying agency) 	<ul style="list-style-type: none"> There are costs for establishing a national certification agency, and when established, the international integrity of the agency will have to be maintained
<ul style="list-style-type: none"> Unfavorable image of D.R. bananas among U.S. market participants 	<ul style="list-style-type: none"> Perception has to do more with fruit quality and logistical support for the trade than with fruit size, although size is also important
<ul style="list-style-type: none"> Relatively small quantities exported to the United States, with logistical challenges 	<ul style="list-style-type: none"> Increased transit time as ships make several stops before reaching final U.S. destinations
<ul style="list-style-type: none"> Weak control or linkage with the distribution system in the United States 	<ul style="list-style-type: none"> Could be mitigated through the development of long-term relationships with importers and distributors, and partnerships with importers
<ul style="list-style-type: none"> Smaller size and circumference of the D.R. organic bananas, compared with competitors 	<ul style="list-style-type: none"> Retailers prefer much larger bananas than those produced in the Dominican Republic, as it forces consumers to spend more per hand of banana purchased; no real evidence that consumers prefer larger bananas
<ul style="list-style-type: none"> Low awareness of special attributes of D.R. bananas in the U.S. market 	<ul style="list-style-type: none"> U.S. consumers are more concerned with price and appearance
<ul style="list-style-type: none"> Somewhat inefficient production systems (low productivity), accompanied by lack of extension and high production costs 	<ul style="list-style-type: none"> Increased production costs limit the ability to compete. Needs include stronger government support, investment in modern farming techniques, and improved infrastructure around farms
<ul style="list-style-type: none"> Difficulty with obtaining financing and loans 	<ul style="list-style-type: none"> High interest rates restrict access to capital needed for growth
<ul style="list-style-type: none"> Inadequate or insufficient supporting industries 	<ul style="list-style-type: none"> Need market intelligence and broker in the United States

6.3 Opportunity

Factor	Comment
<ul style="list-style-type: none"> • Demand for organic bananas in the United States continues to grow despite the recession 	<ul style="list-style-type: none"> • The organic category as a whole accounts for 4.5% of supermarket produce sales in 2010, with sales remaining high since the recession
<ul style="list-style-type: none"> • U.S. demand for organic bananas is showing strong growth 	<ul style="list-style-type: none"> • No evidence of market saturation; demand for organic bananas outstripped supplies, especially in the latter part of the year
<ul style="list-style-type: none"> • Potential for expansion of U.S. fair-trade market; currently, only 30% awareness among U.S. consumers 	<ul style="list-style-type: none"> • Potential for fair-trade organic bananas to become mainstream with granting of fair-trade label to Dole Company
<ul style="list-style-type: none"> • Targeted fair-trade banana market exploitation through specialty retailers 	<ul style="list-style-type: none"> • Specialty retailers, such Whole Foods supermarket, and cooperatives offer a range of fair-trade products
<ul style="list-style-type: none"> • Possibility to exploit window of opportunity in winter months when production is low in some South American countries (Ecuador and Peru) 	<ul style="list-style-type: none"> • Demand for the D.R. product is greatest during the months of August to December
<ul style="list-style-type: none"> • Possibility of partnering with some specialty retailers (Whole Foods) to promote fair-trade production 	<ul style="list-style-type: none"> • Sustainability/social responsibility goals metrics becoming more important to some U.S. consumers
<ul style="list-style-type: none"> • Relatively stable price premium of organic bananas over conventional bananas 	<ul style="list-style-type: none"> • Conventional banana market is extremely competitive
<ul style="list-style-type: none"> • Increased attractiveness of the U.S. market 	<ul style="list-style-type: none"> • Increased competition in EU market resulting from dismantling of the EU tariff; anticipate convergence of profit margins realized in both markets, especially in the case of fair-trade bananas

6.4 Threat

Factor	Comment
<ul style="list-style-type: none"> Hurricanes and inclement weather in the Dominican Republic 	<ul style="list-style-type: none"> Growers bear most of the production risk, so they are hesitant to increase investment; need for risk management tools, including insurance
<ul style="list-style-type: none"> Slow U.S. economic recovery, less discretionary spending, and weak U.S. dollar 	<ul style="list-style-type: none"> Reduces the attractiveness of the U.S. market relative to the EU market
<ul style="list-style-type: none"> The U.S. market is highly competitive, with no tariffs or quantitative restrictions (QRs) on imports of bananas, and hence no trade advantage 	<ul style="list-style-type: none"> The granting of fair-trade label to Dole could increase the competition for fair-trade bananas market in the United States
<ul style="list-style-type: none"> Dominance of U.S. market by a few (4) banana companies (TNCs); supply chain tightly controlled 	<ul style="list-style-type: none"> Difficult to sell to the major retail chains and supermarkets because of their long-term contracts with major banana companies; high cost of recruiting new retailers
<ul style="list-style-type: none"> Availability of other fruit 	<ul style="list-style-type: none"> Reduced demand for bananas during summer
<ul style="list-style-type: none"> Capacity of major competitors to supply large quantities at low cost to the market (e.g., Ecuador, Costa Rica, and Columbia produce organic bananas on a large scale for TNCs) 	<ul style="list-style-type: none"> Increased competition, especially in the earlier months of the year
<ul style="list-style-type: none"> Mexican organic banana exports to United States (competition in U.S. market may drive down price since distributors can select from several suppliers, with differentiation based on quality becoming most important) 	<ul style="list-style-type: none"> Mexico, one of the leading banana producers in the world, has re-entered the U.S. market and has begun exporting fair-trade organic bananas
<ul style="list-style-type: none"> High cost of energy could increase shipping costs 	<ul style="list-style-type: none"> Should affect all exporters
<ul style="list-style-type: none"> Organic banana standards now closely aligned to conventional banana standards 	<ul style="list-style-type: none"> Price and standardization in the U.S. market more suited to large-scale production

SECTION 7. IDENTITY AND BRANDING CONSIDERATIONS FOR D.R. BANANAS

7.1 The Core Issue

The American Marketing Association (AMA) defines a brand as a “name, term, sign, symbol or design, or a combination of them intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of other sellers” (Lake 2011). In the case of the branding of D.R. bananas, the objective will be to differentiate D.R. bananas from those available to the U.S. consumer from other countries, with the hope that this will lead to U.S. consumers choosing D.R. bananas over those of its rivals. Among other things, this requires the brand to deliver a clear message that connects with the target U.S. consumer emotionally, and motivates them to purchase and remain loyal to the product.

7.2 Some Branding Challenges

D.R. bananas start off at a major disadvantage because of an unfavorable image among the trade with respect to size and quality. Despite there being no evidence that U.S. consumers prefer a larger banana to a smaller one, the trade identifies this as one of the ‘success’ criteria. Overcoming this will be a challenge, but is not insurmountable.

Achieving consumer ‘buy-in’ about the inherent unique property (tastier) of the D.R. banana requires breaking into the market and promoting this organoleptic property. This will be costly, given that for most U.S. consumers, a banana is identified by the company (Dole, Chiquita, or Del Monte) selling the product, not the country of origin.

The Dominican Republic could try to promote in its brand with the theme of “production by small-scale ecofriendly” producers so as to personalize its product and to follow-up with appropriate promotional material. This, too, will be expensive, and the product would have to be sold as one of the existing categories of conventional, organic, or fair-trade since retailers are hesitant about introducing any additional categories of bananas so as to avoid confusing consumers. In a study of 16 produce characteristics where respondents were asked to rank the characteristics according to their influence on the buying decision, branding was ranked last.

A major challenge to securing the desired consumer loyalty to the D.R. banana is its relatively small size, compared to those from its competitor countries. In addition, in the view of one importer who is familiar with D.R. bananas and the pulse of the U.S. consumer, the typical U.S. consumer is suffering from label fatigue. The implication is that it will be extremely difficult to engage the consumer to the point where loyalty is developed for the D.R. product.

In addition, despite there being several brands of bananas currently on the market, most consumers are aware of the three big companies: Chiquita, Dole, and Del Monte. Other labels, such as APPOSA, Banacol, Cerro Azul, Organics Unlimited, Pronatur, Urocal, and Turbana, are unfamiliar to most of the

consumers. Under these circumstances, in the absence of any current recognition, any attempt to create brand recognition for D.R. bananas will obviously be a herculean task.

Another issue impacting the establishment of brand recognition for D.R. bananas is the current state of the U.S. economy. One importer observed that in a 'down economy' the emphasis is on quality and price. Thus, given the current U.S. economic circumstances, branding is unlikely to be as successful as the marketing of a product of high quality and competitive price.

The typical U.S. consumer is concerned with convenience, food safety, and the health benefits associated with eating certain foods. There is nothing unique about D.R. bananas, compared to other bananas; therefore there is no one characteristic upon which a branding strategy can be developed.

7.3 Aspects of a Branding Strategy

While coming up with a brand identity is relatively easy, getting it to achieve its objective is difficult and expensive. Moreover, there is evidence to suggest that when it comes to bananas, U.S. consumers do not pay much attention to the label (outside of conventional versus organic, and to some extent fair-trade), other than they might be able to scan the SKU using their cell phones and obtain personalized information on the product.³

It may be possible to pursue developing a branding strategy based upon targeting the loyalty of D.R. citizens who reside in the various U.S. target markets. This, however, is unlikely to be successful since the trade will use the business principles of price and quality in their purchase decisions. The National Supermarket Association (NSA), in which there is a strong presence of D.R. citizens, did not consider branding very important. Rather, it suggested that the greater emphasis should be on quality and price.

7.4 Likely Costs of Branding

Branding costs include much more than just creating a brand name and logo. The costs are influenced by the scope and focus of the branding project and the expertise of the technical experts recruited to provide input into the project. These costs can vary, from a low of \$25,000 for a brand name and logo to over \$100,000.00 for the development of an international identity associated with D.R. bananas.

7.5 Synopsis on Branding

Currently, the likely benefits from branding are not perceived to outweigh the costs because of the absence of a unique product characteristic that can be promoted. In interviews with the trade, it was strongly suggested that the unfavorable image of D.R. bananas should be corrected by breaking into the market with a consistent supply of high-quality fruit at a competitive price before pursuing branding.

³ This is being done by Dole, and all bananas carry the COOL label, at least in Florida.

SECTION 8. ENHANCING D.R. PRESENCE IN U.S. MARKET FOR ORGANIC AND FAIR-TRADE BANANAS

8.1 Context for Re-entry into the U.S. Organic and Fair-trade Banana Market

Traditionally, the U.S. market is regarded as a residual market for organic bananas exported from the Dominican Republic, owing to the unfavorable price offered, compared with prices obtained in the EU market. In some instances, those prices are more than 60% higher than the prices in the U.S. market. However, recent market and non-market developments occurring in the European Union, the United States, and the Dominican Republic are likely to change this perspective and could increase the attractiveness of the U.S. market for Dominican exporters.

One such factor is the recent decision by the European Union to dismantle the tariff structure that had helped produce the attractive profit margins and ensure a secured market for production from the Dominican Republic. In December 2009, the European Commission (EC) and the major Latin American exporters signed an agreement to end decades of dispute over the EC banana trade regime that would benefit the African, Caribbean, and Pacific group of countries (the “ACP” countries; the Dominican Republic is included in this group) over their lower-cost competitors (largely Latin America). In the latest initiative, the European Commission and the Latin American producers have agreed to a deal, whereby the producers would cease litigation in exchange for a reduced EC banana tariff, from its current level of €176 per ton to €114 per ton by 2017. In addition, the European Commission has undertaken a number of free trade negotiations that will likely result in duty-free, quota-free access for major producers in Central and South America, where even lower tariffs of approximately €75 per ton have reportedly been approved by the European Commission. A study conducted by Silva (2010) suggested that EC–Latin American banana deals, and any potential free trade agreements, could cause the wholesale banana prices in the European Union to fall by at least \$2.38 per box, putting downward pressure on the prices currently received by D.R. producers, including the prices received for fair-trade bananas. Moreover, stronger price competition has resulted from lower prices than from tariff cuts. Silva (2010) also identified several warning signs in the EU banana market that could adversely impact Caribbean producers, whose smaller non-plantation farms, higher wages, and difficult topography (relative to the situation in Central and South America) put them at a distinct cost disadvantage:

- An increasingly consolidated banana market dominated by large plantation-based multinationals and monolithic European retailers competing in a highly price-conscious EU retail market, where small Caribbean producers have little to no say in market forces that determine supply and demand levels
- Low market growth, particularly in mature fair-trade markets such as the United Kingdom, Germany, France, and the Netherlands, coupled with strong price competition from low-cost fair-trade-certified producers in Latin America

- Strong competitive pressures from producers in Latin America, Asia, and Africa, with significant potential for new production and export in India and Brazil
- Continued retail price wars over bananas, where major EU retailers, such as Tesco, Sainsbury's, Asda, and Aldi, are willing to drive down banana prices (even incurring significant per-box losses) in order to continue to attract new customers (Silva 2010)

There is also the probability that if the EU economic turmoil (financial crisis) continues, the Euro could be weakened relative to the U.S. dollar. The sum total effect is likely to be a downward spiral of prices in the EU market, leading to narrower profit margins for D.R. bananas sold in the EU relative to those in U.S. market.

In contrast, there are strong indications that the demand for organic bananas in the U.S. market will continue to expand since it is in the early growth stage of the product cycle, compared to a much more mature market in the European Union. The perceived potential for the expansion of the U.S. fair-trade market is based on a current relatively low level, only 30 percent, of consumer awareness. This coupled with the fact that the D.R. is in close proximity to the U.S.A. further justifies the need to reconsider the latter as a prime market for D.R. organic and fair-trade bananas.

Another factor that is likely to increase the attractiveness of the U.S. market is the growing concern in the Dominican Republic about market outlets for the recent increases in production of organic bananas. The D.R. banana industry has been growing at an annual rate of more than 14 percent since 2006. Without new external market outlets, and in light of expected increased competition in the EU market, growers would be forced to sell a greater portion of their production on the local market which is already under severe pressure.

However, breaking into and gaining market shares into the U.S. market will be quite a challenge as the market is extremely competitive, and the quality of the competition is very high with no room in the market for second-grade fruit. It is not envisaged that the U.S. market will be a replacement of the EU market but, given the developments alluded to above, it is prudent that the Dominican Republic should diversify its banana export market, rather than relying almost exclusively on the EU market.

8.2 Major Findings of the Study

- 1) There is the perception among the trade that the quality of D.R. bananas is not of a high standard; this has to do more with size and quality of logistical support, including communication
- 2) The market for organics and fair-trade organic bananas undersupplied in the latter part of the year, so there is the opportunity to supply the market from August to December
- 3) The opportunity to access conventional banana market in the United States is slim to none

- 4) The U.S. market traders prefer a larger banana than the size currently produced in the Dominican Republic, but are not totally opposed to selling the smaller D.R. bananas
- 5) The most promising market for the D.R. banana resides on the U.S. East Coast
- 6) Organic and fair-trade organic bananas are projected to continue to expand; no significant downturn in demand is expected as a result of the recession
- 7) Price premiums for organic and fair-trade bananas have remained fairly stable over the past few years (notable exception is 2008)
- 8) U.S. consumers are more concerned about price and quality than organoleptic characteristics such as sweetness of banana; all efforts should be made to eliminate inefficiencies and improve productivity so as to minimize cost of production
- 9) It is extremely difficult to access the market at the retailer's end; it would be better to focus efforts on establishing partnerships and relationships with importers/wholesalers
- 10) The benefits to be derived from establishing a brand would not exceed the cost at this time; it would be better to focus on gaining a presence in the market by focusing on price and quality (in the widest sense)
- 11) Despite the proximity of the Dominican Republic to the United States, freight cost is a major barrier to increasing the competitiveness of D.R. bananas
- 12) The bulk of the value added resides with the shipping and marketing of bananas

In light of these findings and within the context outlined above, the following strategy/proposal is advanced for expanding D.R. organic and fair-trade bananas in the U.S. market. The proposal has been particularly influenced by the U.S. market's emphasis on **fruit quality and price** of the product. The core elements of the strategy involve improvements in technical and economic efficiencies, handling and post-harvest issues, transportation and shipping logistics, market and retail considerations, and cross-cutting institutional support. The strategy, which is aimed at addressing some of the perceived weaknesses while building on the strengths of the D.R. banana industry, will require a concerted effort involving both the government and the private sector.

8.3 Key Consideration for Accessing the U.S. Market

Supply Issues

Given the favorable agro-climatic conditions within the Dominican Republic for year-round production of organic or fair-trade bananas, D.R. producers seem poised to exploit the window of opportunity for

organic and fair-trade bananas within the United States, particularly during the fall and winter months when the supplies from competing countries are at their lowest.

The most critical of the supply issues is the commitment of producers to dedicate a portion of their output to the U.S. market that may not offer as attractive a price as the EU market. It must also be appreciated that this will be a commitment to receiving low margins for an initial period of three to five years as a foothold is developed in the U.S. market.

It will be important to focus technical resources on increasing the productivity of D.R. banana producers whose current productivity averages 1,600 boxes per hectare, compared to the 2,000–3,000 boxes per hectare averages of the competition, suggesting the need for research on better production techniques and increasing the use of organic fertilizers. Producers will have to work diligently towards adjusting their production systems in order to increase their productivity and to deliver a more uniformly mature product to shippers. Achieving improved productivity will enable producers to increase their output margins. A more uniformly mature product will simplify the ripening procedures and is a critical element in the effort to achieve improved fruit quality.

Another important supply issue is the improvement of post-harvest handling systems and infrastructure for bananas within the Dominican Republic. Among other things, this will decrease the number of blemishes when the bananas ripen, and should contribute immensely to the improvement of fruit quality that is a major requirement for successfully accessing the U.S. market.

Reductions in shipping costs will be extremely important in improving the competitiveness of D.R. bananas. Table 3.1 shows that while D.R. bananas should have a cost advantage, interviews with those in the trade conveys otherwise. It will be important to increase production volumes to negotiate more competitive shipping rates. One way to achieve this may be greater collaboration among exporters.

To facilitate successful access to the U.S. market, it will be necessary to negotiate shipping contracts that offer competitive rates over the medium to long term, together with consistent and reliable schedules. Despite adequate shipping lines, low cargo volumes cause intermediary stops between the D.R. exit ports and the U.S. entry ports. This practice negatively impacts banana trading arrangements by creating uncertainty in the delivery schedules and transport logistics, and by interfering with the ripening of the consignment of bananas prior to the shipment being distributed in the United States.

It should be emphasized that the unfavorable image of D.R. bananas among U.S. market participants is due more to the negative experiences with the quality of logistical support than with actual fruit quality. Among former U.S. importers of D.R. bananas, one indicated reluctance to resume trade after having lost consignments valued at about US\$40,000.00 because of inadequate shipping arrangements, and others indicated interest only if the price allowed them to undersell the competition and they could secure favorable ocean freight contracts.

U.S. Port-side Issues

The stranglehold that the MNCs have on the U.S. banana market can likely be mitigated through the development of partnerships with independent U.S. importers. As previously indicated, a few of these entrepreneurs will be prepared to invest in the D.R. banana trade, recognizing that such an investment will probably yield marginal returns initially to all parties as a foothold is gained in the market.

The establishment of a D.R.-sponsored wholesaler/distributor associated with one of the U.S. wholesale produce markets could serve to complement any partnership with independent U.S. importers. Investigations revealed that such an arrangement was attempted some years ago at the Hunts Point Market in Bronx, New York, but was aborted as a result of lack of funding. This idea could be re-visited, with the concept of a joint venture arrangement between producers and the D.R. public sector.

The possibility of using the National Supermarket Association (NSA), in which D.R. citizens are heavily involved, was explored as a distribution outlet for D.R. bananas. The NSA was quite receptive to the idea, but was only interested in conventional bananas (not organic or fair-trade) delivered at a competitive price (landed price of \$5 to \$6 per box at New York or Miami). We did not consider this feasible and so did not pursue this investigation further.

Retail Considerations

In light of the tight control that the MNCs exercise over the major retail chains through long-term contracts, it will be prudent to develop niche outlets for D.R. bananas. Specialty retailers (e.g., Whole Foods and Trader Joe) that have a health-conscious clientele and offer a wide range of fair-trade products are prospective niche outlets. Based on the responses of the survey, other independent retailers can also be considered for targeting. However, this will likely be most successful if attempted through the collaboration of a cooperative importer/wholesaler.

Market intelligence is critical, especially when entering a foreign market. Current and accurate market intelligence will be most helpful in the Dominican Republic accessing the U.S. banana market. These data and information will be invaluable in informing the overall thrust of the program to secure a foothold for D.R. bananas into the U.S. market. For example, market intelligence can convey U.S. consumers' awareness of fair-trade products and serve to guide the focus of potential retail outlets by those distributing imported D.R. bananas.

Institutional Support with Public Sector Involvement

There appears to be considerable scope for strengthening and upgrading the role and level of public sector involvement in providing institutional support to the banana sector in general and the export of bananas in particular. As pointed out by Michael Porter (1980) in his diamond model analysis, the government and related and supporting industries are key components for achieving competitive success. In contrast, the prevailing view among many D.R. banana producers is that public sector support is weak or non-existent, as evaluated by the activities of the D.R. Ministry of Agriculture.

Greater public sector support is perceived as necessary for activities both within and outside of the Dominican Republic. Internal support is anticipated to address issues that can contribute to the increased productivity by producers such as:

- 1) Investment in upgrading access roads and post-harvest handling systems and infrastructure to foster increased productivity and better fruit quality
- 2) Research and training on better agronomic management practices and post-harvest operations
- 3) Improved agricultural extension systems to promote increased technical efficiency of producers as well as greater productivity
- 4) Investment in research to combat diseases such as black sigatoka while maintaining organic banana production status, and in irrigation to improve productivity
- 5) The facilitation of risk management tools , including insurance, to mitigate the risk that producers face from hurricanes and inclement weather
- 6) Promoting JAD's initiative with respect to the establishment of local certification arrangements
- 7) Innovative approaches by the public sector to help producers to access capital at rates that will encourage them to upgrade their operations (e.g., revolving credit arrangements) so that they can compete in the U.S. market

While the government actively sources development assistance for banana producers in areas such as irrigation, farm diversification, credit, and other technical assistance areas, a more targeted strategy for such assistance, directed to enhancing the export competitiveness of banana producers, would be extremely useful.

External support is conceived to encompass market penetration activities, including:

- 1) The establishment of distributor/broker services in the United States to facilitate the distribution of D.R. bananas in the U.S. market
- 2) The training of producers and exporters on the scope of requirements of the U.S. market for organic and fair-trade bananas and general business concepts
- 3) The promotion of reducing inefficiencies in the critical service and infrastructure sectors of telecommunications, transportation, and logistics
- 4) Jointly sponsored private sector/public sector export promotion drives, targeted to specific niche markets within the United States

While it is feasible for bananas from the Dominican Republic to successfully penetrate the U.S. market based solely on private sector initiatives, it is unlikely that private sector efforts alone will succeed, given the strong control that the MNCs have over the market generally and the retail sector in particular.

With respect to the role of the public sector, the experience in Peru may be instructive and worthy of further study to identify useful lessons for the Dominican Republic, with both having mainly small-scale banana producers. The Peruvian government has made a firm commitment to support its banana industry by addressing logistics and infrastructural issues. For example, the Peruvian Ministry of Agriculture initiated an innovative project that resulted in DOLE purchasing organic bananas from over 1,600 small producers who organized into associations. Subsequently, a DOLE subsidiary was also established to guarantee the quality requirements of the bananas being exported. The Peruvian government has been active in helping associations take advantage of economies of scales, promoting organic certification, and encouraging more direct exporting by local banana cooperatives. While it is possible that the Peruvian experience could have been realized without public sector intervention, it is extremely unlikely. As a consequence, it is suggested that D.R. public sector support is critical to successfully meeting the objectives of developing a niche for organic and fair-trade bananas from the Dominican Republic in the U.S. market.

In this regard, Table 8.1 summarizes the main elements/activities of a strategy to penetrate the U.S. fair-trade and organic banana market.

Table 8.1: Elements of market strategy to penetrate the U.S. fair-trade and organic banana markets

<p>Marketing Objectives: The objective is to develop a niche market for DR organic and fair-trade bananas in the U.S. market to increase the market share for DR bananas within the U.S. market</p> <p>Target Market The target market is organic and fair-trade buyers located on the U.S. East Coast</p> <p>Marketing Strategy and Tactics Accepting that any marketing strategy needs to meet the industry requirement for profitable returns, the intent will be to focus resources on achieving the following:</p> <ol style="list-style-type: none"> 1. Increasing product acceptability by improving fruit quality 2. Improving the quality of logistics and communication within the Dominican Republic and between the Dominican Republic and the United States 3. Initially focusing on the months when supplies from the main competitors are at their lowest 4. Building corporate relationships with U.S. wholesalers and importers 5. Offering the product at competitive prices 6. Providing market intelligence and market information 	
Main Elements	Activities
<ol style="list-style-type: none"> 1. Increase product acceptability by improving fruit quality 	<ul style="list-style-type: none"> • Establish quality benchmarks and constantly monitor to ensure that bananas meet buyers’ quality expectations, particularly for unblemished fruit • Research focused on obtaining larger bananas through practices such as organic fertilizers and irrigation where feasible

	<ul style="list-style-type: none"> • Improve post-harvest handling of fruit
2. Improve quality of logistics and communication within the Dominican Republic and between the Dominican Republic and the United States	<ul style="list-style-type: none"> • Upgrade infrastructure, including access roads and post-harvest handling systems • Ensure timely delivery of products to D.R. ports • Train persons involved in exporting bananas about improved handling techniques • Ensure timely shipping arrangements • Provide market intelligence
3. Initially focus on summer and fall months when organic bananas from competing countries are at their lowest; establish partnerships and relationships with importers/wholesalers	<ul style="list-style-type: none"> • Establish contacts with importers/wholesalers and agree to supply fruit at a price lower than the competition • Demonstrate that there is consistency in supply and quality of fruit
4. Build cooperate relationships with wholesalers/importers	<ul style="list-style-type: none"> • Explore possibility of joint partnerships with independent wholesalers and importers • Establish D.R.-sponsored wholesaler/distributor at one of the U.S. East Coast wholesale produce markets
5. Offer product at competitive prices	<ul style="list-style-type: none"> • Negotiate better shipping rates over the medium and long term to ensure competitive pricing of product • Improve farm productivity by minimizing cost of production and/or increasing output to allow product to be offered at competitive price <ul style="list-style-type: none"> — Improve agricultural extension systems to promote increased technical efficiency of producers — Facilitate risk management tools, including insurance against natural disasters — Facilitate producers accessing capital and credit — Consider joint purchase arrangements for fertilizers and other inputs — Establish working organic banana farms at local universities for agronomy/agribusiness students to conduct research related to organic bananas • Explore possibility of joint marketing of D.R. bananas to the United States • Train farmers in basic business concepts • Conduct detailed study on other ways to improve banana productivity within the Dominican Republic
6. Market intelligence and marketing Information	<ul style="list-style-type: none"> • Provide services in exporting, importing, and trade regulations • Develop systems within the industry to obtain market and production data such as production forecasts, production volumes and costs, labor costs, transportation

	<p>costs, and fees</p> <ul style="list-style-type: none"> • Identify opportunities to improve cost efficiencies • Establish a monitoring and reporting system with wholesalers’ agents (e.g., feedback sheets for each consignment and digital photos where possible) to show product quality so as to track, evaluate, and remedy quality problems • Record all problems relating to product quality, transport, client service, price slumps, and backlogs • Conduct periodic interviews with importers to determine whether product is meeting the requirements • Distribute market information to all members of marketing groups
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8.4 Concluding Comments

Securing a niche in the U.S. banana market for fruit from the Dominican Republic is a huge challenge but not insurmountable. In the first instance, it will require a strong focus solely on the organic and fair-trade market niche, with a buy-in from D.R. producers who are prepared to dedicate a portion of their output entirely to this goal. Producers will need to appreciate that in the initial years of the project, margins are likely to be lower than might be obtainable in the EU market. Participating producers will also have to be committed to improving productivity and post-harvest handling practices in order to be able to deliver to the market a product of the desired fruit quality at a competitive price.

Shipping costs is one component of the consignment cost that will require specific attention through the negotiation of special rates based on guaranteed higher volumes than those now or in the past. Success with this will be critical to being able to land the shipment at a U.S. port at a price that is attractive to the importer/wholesaler. The negotiation of shorter shipping routes will also contribute to the delivery of a consignment of fruit of desired quality in a timely manner.

Strong collaboration with an independent U.S. importer/wholesaler will also be a critical link in the process. The importer/wholesaler will be the principal conduit through which the consignment of organic and/or fair-trade bananas will be distributed to appropriate retail outlets. The establishment of a D.R. broker at one of the wholesale produce markets on the U.S. East Coast likely can support the functioning of the importer/wholesaler.

Strong institutional support arrangements at various stages, in which there is collaboration between producers and the public sector, will also be needed for successful goal achievement.

Annex I

Terms of Reference

The terms of reference and related specific tasks were specified as follows:

- 1) Carry out an analysis of export flows, shares, and prices (including D.R. exports to the Windward Islands) of the Dominican Republic and its main competitors in the U.S. market; the volatility of exports by the Dominican Republic and its competitors (include relevant traits of organic/fair-trade certified banana value chains from an organizational and value added distribution point of view across main competitors)
- 2) Carry out an analysis of the distribution of value along all segments of the value chain from producers to retailers (this analysis will be generated by the combination of findings of the domestic and international market surveys)
- 3) Carry out an importers' survey in the United States (sample should include actual, former, and potential importers) to estimate potential demand; price indicators; and type of arrangement (transport facilities) requirements by type of buyer (quality and safety; frequency of supplies) [Note: Requirements change dramatically by country and even more by supermarket chain, so interviews should be held with both importers and supermarket chains, including selected cooperative-based retailing].
- 4) Develop a proposal on the most viable and promising export opportunities combined with customized "certification" and branding strategies for organic/fair-trade bananas for the U.S. market (e.g., a cost-benefit analysis of obtaining certification; investigate the problems encountered by D.R. farmers (especially small-scale) in obtaining certification; and conduct a domestic market analysis that combines the advantages of group certification and inputs

The specific tasks identified to discharge the terms of reference are as follows:

- 1) Analyze the U.S. market for organic and fair-trade bananas
- 2) Analyze the volatility of D.R. exports of organic and fair-trade bananas to the U.S. market
- 3) Describe the relevant traits of organic and fair trade banana value chains pertaining to the U. S. market from an organizational and value added distribution perspective
- 4) Analyze the distribution of value along all segments of the value chain from producers to retailers with respect to the D.R. supply to the U. S. market
- 5) Conduct a survey of market participants at the importer, distributor, and retailer levels (the sample frame includes actual, former, and potential importers, as well as supermarket chains
- 6) Develop a proposal on the most viable and promising export opportunities, combined with customized "certification" and branding strategies for D.R. organic/fair-trade bananas for supply to the US market (this includes but is not limited to a cost-benefit analysis of obtaining certification)

References

- AgraQuest. Company website. Accessed March 2011. Available at <http://agraquest.com/news/2011/02/agraquest-and-partners-to-introduce-unique-biofungicide-for-control-of-black-sigatoka-in-bananas/>
- Asociación de Exportadores de Banano del Ecuador AEBE. Estadísticas. Accessed March 2011. Available at <http://www.aebe.com.ec/Desktop.aspx?Id=135>
- Banacol. Company web site. Retrieved in March 2011. Available at <http://www.banacol.com/home/2>
- BananaLink. National Companies. Accessed March 2011. Available at <http://www.bananalink.org.uk/content/view/67/27/lang,en/>
- BananaLink. The Banana Trade. Accessed March 2011. Available at <http://www.bananalink.org.uk/content/view/61/21/lang,en/>
- Centro de Exportaciones e Inversion CEI, Dominican Republic. *Reportes Estadísticos Online*. Accessed March 2011. Available at http://www.cei-rd.gov.do/reportes_estadisticos.asp
- Consortio de Investigacion Economica y Social CIES. *Asociaciones de pequeños productores y exportaciones de banano orgánico en el valle de Chira Peru*. Accessed March 2011. Available at <http://cies.org.pe/analisis/68/asociaciones-de-pequenos-productores+>
- Chiquita Brands International. 2010. *Map of Chiquita Banana Farms*. Accessed March 2010. <http://www.chiquitabananas.com/Banana-Information/find-banana-farm-map.aspx>.
- Chiquita Brands International. *Annual Report 2009*. Accessed March 2011. Available at <http://www.chiquitabrands.com/InvestorRelations/annualreports.aspx> .
- Consejo Nacional de Competitividad. 2010. *Estrategia Nacional del Sector del Banano de la Republica Dominicana*. # 10 FED 020-376 No. De Identificacion, DO/002/08
- Daabon Organic USA. Company website. Press Room. Accessed March 2011. Available at http://www.daabon.com/usa/press_fair_news.htm
- Dole Food Company, Inc. 2010. *Dole Worldwide Operations*. Accessed March 2010. http://www.dole.com/servedocument.aspx?fp=documents/dole/DoleFacilities_Complete.pdf
- Dole Food Company. *Annual Report 2009*. Accessed March 2011. Available at <http://investors.dole.com/phoenix.zhtml?c=231558&p=irol-reportsannual>
- Dole Food Company. *Worldwide Operations Report 2009*. Accessed March 2011. Available at <http://www.dole.com/AllAboutDole2005/tabid/1293/Default.aspx>

Fair Trade USA. 2011. *Fair Trade USA Almanac*. Accessed June 2011
http://www.transfairusa.org/sites/default/files/Almanac%202010_0.pdf

FAO. *Banana Statistics 2009*. Accessed March 2011. Available at
<ftp://ftp.fao.org/docrep/fao/meeting/018/k6853e.pdf>

Fresh Del Monte Produce, Inc. 2010. *Bananas*. Accessed March 2010.
<http://www.freshdelmonte.com/products-whole-produce-bananas.aspx>

Fresh Del Monte Produce. *Annual Report 2009*. Accessed April 2011. Available at <http://phx.corporate-ir.net/preview/phoenix.zhtml?c=108461&p=proxy>

Fyffes. *Annual Report 2010*. Accessed April 2011. Available at
<http://ww7.global3digital.com/exreport/pdfs/viewer.jsp?ref=30>

Fyffes. *Investor Presentation 2009*. Accessed April 2011. Available at
<http://ww7.investorrelations.co.uk/fyffes/Presentations.jsp?menu=8&year=2009>

Kaplinsky, R. 2004. Spreading the gains from globalisation: What can be learned from Value Chain Analysis. *Problems of Economic Transition* 47(2): 74-115

Lake, Laura, What is Branding and How Important is it to Your Marketing Strategy? About.Com Gide. Accessed June 2011. Available at <http://marketing.about.com/cs/brandmktg/a/whatisbranding.htm>

Lin, B.H., S.T. Yen, C.L. Huang, and T.A. Smith. 2009. U.S. demand for organic and conventional fresh fruits: The roles of income and price. *Sustainability* 2009(1):464-478.

Liu, P., 2008. Certification in the value chain for fresh fruits: The example of the banana industry. Food and Agriculture Organization of the United Nations, Rome, Italy. Accessed March 2011.
<ftp://ftp.fao.org/docrep/fao/011/i0529e/i0529e00.pdf>

Organic Bio. Company website. Accessed March 2011. Available at <http://www.organic-bio.com/en/directory/fruit/bananas/>

Organic Monitor. 2011. *Global Organic Food & Drink Market*. Accessed March 2011. Available at
<http://www.fibl.org/fileadmin/documents/en/news/2011/sahota-2011-biofach-market.pdf>

Porter, Michael. 1990) *The Competitive Advantage of Nations*. New York NY: Free Press, Macmillian Inc.

Quiles, Juan, 2010, Mapping and Identification of the Beneficiaries of the Banana Programme, UNDP Working Paper

Research Institute of Organic Agriculture. *Organic Agriculture in Europe 2009:Production and Market*. Accessed March 2011. Available at <http://orgprints.org/18365/2/willer-2011-european-market.pdf>

Reybanpac. Company website. Accessed March 2011. Available at
<http://www.reybanpac.com/english/html/inter.htm>

Robinson, P. 2009. *Dilemmas of a Fair Trade Banana Enthusiast*. Accessed June 2011. Available at <http://smallfarmersbigchange.coop/2009/06/10/dilemmas-of-a-fair-trade-banana-enthusiast/>

Silva, S. 2010. Fairtrade, the Windward Islands and the Changing EU Banana Regime. *Commonwealth Trade Hot Topics*, Issue 74. Commonwealth Secretariat, London U.K.

Superintendencia de Administracion Tributaria SUNAT Peru. Estadísticas de Comercio Exterior. Accessed March 2011. Available at <http://www.aduanet.gob.pe/aduanas/informae/estadisticasComExt.htm>

Uniban. Company website. Accessed March 2011. Available at <http://www.uniban.com/>

United Nations. *Commodity Trade Statistics Database*. Accessed April 2011. Available at <http://comtrade.un.org/db/mr/rfCommoditiesList.aspx?px=HS&cc=08>

USDA/AMS. *Fruit & Vegetable Market News*. Accessed March 2011. Available at <http://www.marketnews.usda.gov/portal/fv>

USDA/AMS: USDA Accredited Certifying Agents. Accessed June 2011. Available at : <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateJ&navID=NationalOrganicProgram&leftNav=NationalOrganicProgram&page=NOPACAs&description=USDA%20Accredited%20Certifying%20Agents&acct=nopgeninfo>

USDA/ERS. *Fruit and Tree Yearbook 2010*. Accessed March 2011. Available at <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1377>

USDA/FAS. *Global Agricultural Trade System GATS*. Accessed March 2011. Available at <http://www.fas.usda.gov/gats/default.aspx>

Vargas, A.A, 2011, Personal communication: Economic Profile of the Banana Sector of the Dominican Republic