



PLATANERA RIO SIXAOLA, S.A.

INTRODUCTION

For more than a decade, WRI's Sustainable Enterprise Program (SEP) has harnessed the power of business to create profitable solutions to environment and development challenges. BELL, a project of SEP, is focused on working with managers and academics to make companies more competitive by approaching social and environmental challenges as unmet market needs that provide business growth opportunities through entrepreneurship, innovation, and organizational change.

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In fall, 1994, Volker Ribniger was reviewing the market opportunities for the 1995 banana crop produced by his company Platanera Rio Sixaola S.A. Platanera Rio Sixaola was the first banana plantation in the world to earn Eco-OK certification.

In 1995, Ribniger expected to more than double his production capacity from 3500 boxes of bananas a week to 8000 boxes. After three years of production, however, Ribniger's cost of production (\$7.22/18 Kg. box) continued to exceed his revenues (\$5.32/18 Kg. box). He was concerned therefore about the ways in which he might either lower his costs or increase the price his customers would be willing to pay him. Either alternative would be difficult however since Ribniger was a small, independent banana producer in an industry where approximately 70% of the world market was controlled by the "Big Three" of Chiquita, Dole, and Del Monte. Each of these companies shipped more than 1.9 million boxes of bananas per week.

COMPANY HISTORY - PLATANERA RIO SIXAOLA, S.A.

Volker Ribniger had moved to Costa Rica from Germany in the early 1980's with the intention of operating an organic farm. In 1988, he purchased the Platanera Rio Sixaola plantain plantation, located on 120 hectares (297 acres) of prime banana land in southeast Costa Rica, near BriBri, Talamanca. He then produced organically grown plantains solely for the domestic Costa Rican market from 1988-1991. In late 1991, he switched the plantation to production of standard top grade bananas in an attempt to produce more revenue. By November, 1994, Ribniger's total capital investment in Platanera Rio Sixaola amounted to \$800,000 in loans and \$100,000 of his own money.

Ribniger originally intended to convert his organic plantain farm into a farm growing organic bananas. He soon realized, however, that growing organic bananas in Costa Rica was impossible because of the presence of a virulent fungus called black Sigatoka that could only be controlled by a chemical fungicide. As an alternative, Mr. Ribniger decided that his plantation would grow the most chemical free and environmentally friendly bananas possible. In late 1992, Platanera Rio Sixaola began selling its bananas that had been grown using the more environmentally friendly methods.

In 1993, The Rainforest Alliance recognized Platanera Rio Sixaola's commitment to the environment by awarding it a "green seal" and declaring it to be the first Eco-O.K. banana plantation in the world. By fall, 1994, the Platanera Rio Sixaola banana plantation was one of two in Costa Rica selling Eco-O.K. certified bananas. It was rumored, however, that Chiquita would be selling Eco-O.K. certified bananas by 1996. Ribniger felt therefore, that he had only a short-term window of opportunity to differentiate his bananas and he was considering how best to do this.

From October, 1992 through the end of 1994 only 60 hectares (148 acres) of the plantation had actually been producing bananas. In November, 1994, Ribniger was harvesting & exporting between 2,000 and 3,500 boxes per week. In addition, starting in August of 1994, the plantation began exporting 13 kg. (29 lb.) boxes of smaller 6" - 8" (15.2 cm. - 20.3 cm.) bananas to its markets in Germany. Starting in January of 1995 Mr. Ribniger planned to be harvesting 4,000 18 kg. (40 lb.) boxes of bananas per week from all 120 hectares (297 acres). He projected that by June of 1995 the farm could reach maximum productive capacity of 8,000 boxes per week.

Through 1994, Platanera Rio Sixaola employed 40 workers on its 60 producing hectares (148 acres), an additional eight workers maintained plants on the 60 hectares (148 acres) that would begin producing in 1995, three administrators, and Mr. Ribniger. Mr. Ribniger intended to maintain a ratio around 1.7 ha. (4.2 acres) per field worker once the plantation began producing on all 120 ha. (297 acres), a total of 75 workers and three administrators.

In fall, 1994, Platanera Rio Sixaola was selling from 2,000 to 3,500 18 Kg. (40 lb.) and 100 13 Kg. (29 lb.) boxes of bananas per week to the large German importer Cobana, Hamburg. Platanera Rio Sixaola received revenues of \$5.32 per 18 Kg. box and \$3.70 per 13 Kg. box. Half of these bananas were distributed to Mr. Ribniger's hometown of Hamm. The rest were

distributed to two towns near Hamm in the German province of Westphalia.

Cobana sold the bananas to a “riper” in the city of Bielefeld, in the province of Westphalia. The “riper” sold most of the bananas to a major wholesaler, with a few sold to fruit and vegetable shops in Bielefeld. The wholesaler then sold the bananas to fruit and vegetable shops in Munster and Mr. Ribniger’s home town of Hamm. These shops sold the bananas to the final retail consumer. Platanera Rio Sixaola, however, didn’t produce enough bananas to supply the major supermarket chains. Ribniger noted

“Sales to large supermarkets are impossible for my bananas because they want the same type of bananas in all their stores across the country. The same in Hamburg as in Düsseldorf as in Köln (Cologne) as in Berlin. Therefore, they buy their bananas from one of the big multinationals like Chiquita.”

All standard size bananas, Platanera Rio Sixaola’s and Chiquita’s alike, sold at \$2.00 per Kg. (2.2 lb.) to the German retail customer in November 1994. One Kg. is about 7 medium (8”) bananas.

THE GERMAN BANANA MARKET

Bananas were the most popular fruit in Germany as of November 1994 with Germans consuming 8 Kg. (17.6 lb.) or approximately 53 8” (20.32 cm.) bananas per person per year, one of the highest banana consumption rates in the world. This, however, was down from 11 kg. (24 lb.) just two years earlier as a result of E.C. banana import quotas that had dramatically raised the retail prices of bananas in Germany from \$24 to \$36 per 18 Kg. box.

Banana import quotas established by the European Community at the beginning of 1993 were designed to give a trade advantage to bananas from E.C. producers and former E.C. colonies in Africa and the Caribbean. The quotas limited the amount of Latin American produced bananas that could be imported into the E.C. Importers of Latin American bananas were required to possess import licenses which allowed them to import a specific quantity of bananas into the E.C. Licenses were distributed at no cost to traditional importers by the E.C.. Distribution was based on average historical share of import volume over the previous three years, but the licenses could be bought and sold among importers. In fall, 1994 these licenses sold for \$7 to \$8 dollars per Kg. (2.2) of bananas that they allowed the owner to import.

A maximum of 70% of banana importing licenses could be used to import Latin American bananas. Importers of bananas from outside of Latin America received the other 30% of the licenses, although they were permitted to exceed their assigned 30% of total imports without incurring any penalty. The quota allowed only 2 million metric tons (110.3 million boxes) of bananas to be imported into the E.C., a reduction from Latin America of nearly 1 million metric tons. In 1994, this quota was raised by 100,000 metric tons. Licensing for any Latin American imports exceeding this level raised the importers costs by approximately \$56 per box.

Import licensing caused reduced banana supplies which led in turn to these higher prices in the

E.C. It was believed that mandatory E.C. import licenses for Latin American bananas had raised retail prices from \$24 to an average of \$36 per 18 Kg. box for all bananas consumed in the E.C. whether they came from Latin America, E.C. countries, or former colonies of E.C. countries in Africa and the Caribbean. Banana producers from the E.C. and former E.C. colonies in the Caribbean and Africa benefited from these increased prices because they were allowed to continue to supply all of the bananas they could produce to the E.C. It was only the Latin American exporters that were affected by diminished demand.

PRODUCT DISTRIBUTION

Ribniger chose to distribute Platanera Rio Sixaola's bananas in and around his home town in Germany, because he had many personal connections to the area that allowed him to gain access to an importer (Cobana, Hamburg) that had the necessary E.C. import licenses to allow his bananas into the E.C. market. He considered himself fortunate to have a buyer inside the E.C. because the E.C. import quotas on Latin American bananas had caused an excess of these bananas and resulting low prices in the rest of the world market as Latin American bananas were diverted from the E.C.

PROMOTION

The ripener and the wholesaler of Platanera Rio Sixaola's bananas paid for limited radio advertising in the Westphalia region of Germany. Approximately 2,000,000 people lived in this market area in November of 1994. In fall, 1994 approximately \$1 ,000 per month was being spent on radio advertising for Platanera Rio Sixaola's bananas. Advertising the Eco-O.K. approval of Platanera Rio Sixaola's bananas was the main thrust of the radio ads; there were no print ads for the product. The local newspapers, however, wrote articles about Platanera Rio Sixaola's environmental responsibility every three months or so. One national television program contained a 10 minute feature about Platanera Rio Sixaola's environmental responsibility during a half hour show concerning the environmental damage caused by traditional banana farming.

Since the fruit and vegetable shops that sold Platanera Rio Sixaola's bananas only dealt with produce they employed staff that took the time to personally sell these products. They could inform the final consumer about the environmental responsibility of Platanera Rio Sixaola's bananas. However, neither Platanera Rio Sixaola nor its distributors gave any additional incentives to these retailers to promote the product.

THE BANANA INDUSTRY

The world market for bananas is basically an oligopoly with approximately 70% controlled by three major companies; Chiquita, Dole, and Del Monte. The remaining 30% is spread among scores of small banana trading companies. Chiquita is the leader with control of approximately one-third of all of the bananas in the world. Dole and Del Monte each control around 20%.

These Big Three set all industry-wide quality standards and prices. For example, prices received by banana producers in Costa Rica are commonly established through an agreement between the

government of Costa Rica and the Big Three. In November of 1994 this price was \$5.29 for an 18 Kg. (40 lb.) box bound for the European Community. In addition, bananas are subject to no U.S. grade standards, unlike almost every other agricultural product. Instead, bananas are graded on standards set by the Big Three banana companies which dictate the size and appearance of all bananas on the market. Bananas are graded as “ones” if they are unblemished, between 8” (20.32 cm.) and 10” (25.4 cm.) in length, between 29 and 38 mm. in width, and mildly curved like a slightly closed hand. Almost all bananas sold for export are graded “one”. Bananas are generally regarded as unmarketable if they are too straight, curved, fat, skinny, short, or long. They are also rejected for export if they are twinned (two bananas with one contiguous peel), or have scarring on their peels from contact with insects or leaves.

BANANA HISTORY

In 1950, world banana consumption was 2.3 million metric tons (about 126.8 million boxes). 60% of those bananas were consumed in North America, 30% were eaten in western Europe, and the final 10% stayed mainly in producer nations. The banana was virtually unknown in eastern Europe and Asia at that time.

Four decades later, in 1990, world banana consumption had more than quadrupled in volume, and had expanded to all reaches of the globe. By 1992, the 12 countries of the E.C. were buying 42% of world production, North America was taking 33.3%, Japan and the far east bought 9.4%, the remaining countries of western Europe received 5.5%, the middle east purchased 3.8%, 3% went to former Warsaw Pact nations, 2.1% were consumed in Latin America, and the remaining 1% stayed in producing nations in the Caribbean and Africa. The period from 1982 - 1992 had rapid expansion, with 4.2% average yearly growth rates in demand for bananas. Export prices for bananas rose by more than 30% over the same period. 1988-1992 had especially rapid development with average yearly growth rates of demand at 10.5%.

World consumption of bananas in 1992 was just over 10.6 million metric tons (roughly 584.3 million boxes). Then, 1993 saw the institution of import quotas on Latin American (“Dollar”) bananas in the European Community. The E.C. was the most important banana consuming region in the world in 1992, consuming 42% of world production (4,456,000 metric tons), while Latin America was the world’s most important banana exporting region, having exported 77.4% (8,200,000 metric tons) of the world’s bananas.

World banana exports were historically dominated by the so called “dollar” banana producers of Latin America, even though bananas were produced all over the globe. In 1992, Latin America accounted for 77.4% of the world’s 10,600,000 metric tons of banana exports. The next largest producer was the Philippines with 9.4% followed by E.C. countries with 7.5%, Caribbean producers with 3.8%, and African exporters with 1.9%.

Dollar bananas are those produced in rich volcanic soils of the humid tropical coastal lowlands in Central and South America. Industry experts judge that they are the highest quality bananas available both for their sweetness and consistent size. “Dollar” bananas received this nickname because such a large proportion of the bananas produced in Latin America were planted and

controlled by companies based in the U.S. that traded in dollars and returned many dollars to the producer nations in this region.

COSTA RICA'S POSITION IN THE WORLD BANANA INDUSTRY

In spite of its small land area, 50,900 sq. Km. (19,650 sq. miles or about half the size of the state of Tennessee in the U.S.A.), Costa Rica was the second largest producer of bananas in the world behind Ecuador. In 1993, Costa Rica exported 101.1 million boxes, Ecuador exported 139.6 million, and Colombia exported 84.1 million boxes. 1993 marked the fifth consecutive year that Costa Rica set a new record for its banana exports.

Banana exports from Costa Rica increased by 9.7 million boxes (10.6%) from 1992 to 1993. CorBaNa (Corporación Bananera Nacional) attributed this production increase to the entrance of three new mid-sized banana companies into the market (Geest Caribbean, Difrusa, and Goriban) and a large increase in production by COBAL (Costa Rica's subsidiary of Chiquita Brands) of 46.74% over 1992.

Costa Rican subsidiaries of the world's big three banana producers controlled the exports of two-thirds of the country's banana production in 1993. They either produced the fruit themselves, on their own plantations, or bought it from other producers after it was harvested. Standard Fruit Co. (Dole Fresh Fruit) led all exporters from Costa Rica with 28% of the market. BANDECO (Del Monte Fresh Fruit) was second with 22% and GOBAL was third with 18%. The remaining 32% of exports was divided between eight other medium sized companies (25%) and 35 small independents (7%).

In 1993, the banana industry accounted for 1% of the total cultivated land area in Costa Rica while it provided jobs for 25% of the country's work force. 97% of the 49,400 hectares (122,000 acres) were located in the humid Caribbean lowlands on the east side of the country. About half of Costa Rica's banana producing land was actually owned and managed by the 11 large and medium sized banana exporting companies. The remaining half was owned and operated by independent producers. Independent producers usually operated small farms producing small quantities of bananas that they generally sold to one of the 11 larger exporting companies for exportation and distribution. As a result, these 11 companies controlled the export of approximately 93% of all Costa Rican bananas in 1993.

While the average Costa Rican yield of 2,500 boxes per hectare per year (1,000 boxes per acre) was the highest in the world, production costs were also the highest in Latin America. Costa Rica's well developed system of social security services (E.C. universal health coverage, retirement pensions, public education, etc.) made labor costs the highest in the region. Bananas accounted for 27% of Costa Rica's foreign exchange earnings, second only to tourism (which became highest in foreign exchange earnings for the first time in 1993).

In 1993, 99% of Costa Rica's export bananas were imported into five countries; the U.S.A. (53%), Belgium (19%), Germany (19%), Italy (7%), and England (1%). The other 1% was spread among various other countries in Europe and Asia.

THE COSTA RICAN MARKET FOR BANANAS

Most of the bananas sold in Costa Rica are kept in the country only because they don't live up to export size and appearance guidelines. This is common among all banana producing nations. While the fruit inside is just as good, the exporters believe that consumers in developed countries will not purchase bananas with an odd shape, small size, or superficial blemish.

In addition, many bananas available in the Costa Rican market suffer no actual appearance problems, but are only two or three finger bunches. Exporters customarily will not export fewer than four fingers in a bunch. The market price to the Costa Rican consumer for bananas in early November of 1994 was 34 colones per Kg. (about \$0.21 U.S. for 2.2 lbs.).

THE ENVIRONMENTAL PROBLEMS OF BANANA CULTIVATION

Environmental problems associated with banana cultivation include the generation of solid waste in the form of non-exportable bananas, waste from materials used in the production process, deforestation, reduced bio-diversity, and the intensive application of chemicals in the form of herbicides, pesticides, nematicides and fertilizers. Although domestic banana markets consume some of the bananas that don't live up to export appearance, 15% - 20% of all edible harvested bananas are wasted since the domestic markets are not big enough to consume all of the bananas that don't meet cosmetic export standards. The majority of these wasted bananas are placed in landfills, creating a massive solid waste problem (more than 1,590,000 metric tons in 1992) as the bananas ferment and emit noxious gasses and liquids.

In addition, the growth in banana consumption in world markets has led to increasing land areas being brought into banana cultivation. The best bananas grow on coastal flatlands in the humid tropics, home to the richest and most biologically diverse eco-system on earth, the lowland tropical rain forest. More than 200,000 hectares (500,000 acres) of these tropical areas were deforested to make room for banana plantations from 1950 - 1990. This deforestation in turn, led to a loss of biodiversity, oxygen production, carbon sequestration capacity, soil erosion, and landslides. Networks of canals were also cut into the plantations to connect them to nearby watersheds and to remove the rain water the banana trees were unable to absorb. This disrupted natural stream systems leading to unnatural drought and flooding downstream; it also loaded rivers with sediment, chemicals, and trash, that poisoned drinking water supplies for the local population.

Bananas are grown in a biological monoculture, meaning that only one species is present in a given area. Without natural biodiversity to balance the eco-system and protect it, monocultural agriculture systems are vulnerable to pests, diseases, and depletion of soil nutrients. Traditional banana monocultures therefore need to employ large amounts of chemical pesticides, nematicides, herbicides and fertilizers in order to shield the bananas from damage and to maintain high crop yields.

Under tropical rains, the chemicals applied to traditional banana plantations wash into watersheds killing fish, plants and other creatures. These chemicals are extremely hazardous to human, animal, and plant health. In addition, each bunch of bananas is swaddled, as it ripens, in a pesticide-laden blue plastic bag to protect it both from insects and abrasions that might cause scars. Traditionally, these blue wrappers are ripped from a bunch during harvesting; historically they have been left on the plantation floor, to be washed into irrigation canals and rivers by heavy tropical rains. The same is true of the plastic twine used to support the banana tree when the fruit becomes heavy, and of the foam rubber pads that are placed within the banana bunch to keep the different “hands” of bananas from scarring one another. Usually, all three end up littering the countryside, fouling streams, and even finding their way to the sea where they kill giant turtles and other wildlife that try to eat them.

After a few decades, banana farming can no longer be continued on the same land because the once rich environment has been thoroughly degraded. Water systems have been altered and contaminated, the earth has been compacted with a meter of intermingled plastic twine and bags, and the once rich volcanic topsoil has been leached of its nutrients.

COSTA RICAN POLICY ON BANANAS

Costa Rica was one of the original Banana Republics. These were countries that exported so many bananas that the banana companies and plantation owners, rather than governments, were said to rule these countries. These Latin American states had long histories of making laws for the benefit of the banana trade.

Costa Rica was unusual however: while the banana industry in Costa Rica had long been a key source of foreign exchange, the country had also made laws regulating industry practices. For example, all roads and watersheds in banana areas were required to be buffered by 10 meters (33 feet) of natural growth vegetation (e.g. trees, shrubs, and grasses), chemicals banned for use in the United States or Europe could not be used, all workers were required to wear fully covering protective clothing masks and goggles to protect them when applying dangerous agrochemicals, and all workers were required take a shower after applying chemical nematicides, herbicides or pesticides to the plantation. (There were no laws on the books regarding the disposal of the blue plastic bags or twine).

There was, however, virtually no effective enforcement of any of the Costa Rican laws governing bananas. For example, Paraquat (a chemical herbicide banned in the United States since the 1970's) was commonly used in both banana and coffee cultivation. Costa Rica had few funds to maintain an extensive regulatory structure, even though it collected \$0.50 in taxes and duties for each box of bananas exported. Instead, the powerful banana industry was left to police itself for the most part through groups like CorBaNa (which recommends standard growing procedures to follow that were usually written into law a few years later).

TRADITIONAL BANANA CULTIVATION IN COSTA RICA

Traditional banana cultivation in Costa Rica began in the late 19th century. While banana farms were often placed side by side for efficiency reasons if they had a common owner, there were numerous separate farms in Costa Rica. In 1993, they ranged in size anywhere from a single hectare (2.47 acres) up to 3,000 hectares (7,413 acres) enclosed in a single farm.

Only one bunch of bananas can grow from a single banana tree. After the bananas are harvested the tree is cut down so that one of its children can produce next year's bananas. It takes nine months for a tree to grow and produce a bunch of bananas. A mature bunch usually contains between five and ten (sometimes up to 14) large "hands" of 15 - 20 green bananas longer than 8" (20.32 cm.).

Once a bunch has reached maturity, a worker cuts it down with a machete and carries it to a cable system that transports the bananas to the processing station. When the bananas arrive in the station, a worker removes the foam rubber pads (if any have been used), cuts the large "hands" off of the stalk and dumps the "hands" into a tub of moving water. The water is used to remove the latex that naturally flows from the banana peels when they are cut, and to move the bananas along to the next stage of processing. Once stripped, the stalk is discarded and the process begins on another bunch.

The water carries the large "hand" to another worker that uses a sharp knife to remove most of the crown (the connection between the bananas and the stalk). This worker then cuts the large "hand" into smaller "hands" of marketable size (4 - 9 bananas). At this point all bananas that don't meet the cosmetic standards of the export market are separated and thrown onto a conveyor belt that takes them elsewhere to be processed or discarded. The smaller "hands" are again paced in a tub of moving water. The bananas spend a minimum of 17 minutes in the cold moving water in order to remove the naturally occurring latex. The water also cleans off any other dirt that may be on the banana peel.

Next, the small "hands" are picked out of the water by another worker, placed on a tray that will hold 18 -20 kg. (40 -44 lb.), and weighed. The bananas are then sprayed by hand with a chemical fungicide to prevent the development of crown rot on the cut crowns and another worker places a sticker on each "hand" identifying the producer and/or country of origin.

When the bananas have dried, another worker arranges them in a corrugated cardboard box, lined with a plastic bag, for shipping. "Hands" are placed inside the plastic bag concave side down on the bottom and stacked in four layers until the box contains 18 Kg. (40 lb.). The bag is closed and the lid of the box is put on. The box is then ready for transport to a port for export.

Traditional Costa Rican growing methods have resulted in the most productive banana plantations anywhere in the world. The owners of these plantations have taken maximum advantage of green revolution technologies and available land in order to assure a maximum yield. Every square meter of land is planted with banana trees right up to stream banks and roads. Growers routinely apply high amounts of chemical fertilizers to the fields to maintain soil fertility that is constantly being stripped by a monoculture of nutrient hungry banana plants.

These farmers also use many chemical herbicides to keep competing vegetation from establishing itself amongst their banana trees and thereby robbing them of valuable nutrients. In addition chemical nematicides are used in order to kill nematodes that can kill a banana tree by attacking and destroying its fragile system of roots. Aerial dustings of a fungicide, usually every 10 days, are also commonplace because of a fungus called “Black Sigatoka” that kills banana plants by turning their leaves black thereby making them unable to process solar energy into food with chlorophyll.

Mature bananas contaminated with Black Sigatoka ripen inside while remaining green on the outside. As they ripen, bananas release ethylene gas. When these bananas are shipped with other bananas they will cause the entire shipload to ripen before arrival. Since ripe bananas have a shelf life of three to seven days, these bananas, ripened due to the chain reaction started by Black Sigatoka contamination, are unsaleable.

ECO-O.K. BANANA CULTIVATION

The Eco-O.K. Banana Project was started in October of 1991 by the Rainforest Alliance (a New York based environmental non-profit), and joined by Fundación Ambio (a Costa Rican non-profit made up of lawyers concerned with environmental issues) in March of 1992. The expressed intention of the program is to create market incentives to reduce the environmental impacts of banana production. According to their literature,

“The Eco-Q.K. Banana Project provides a mechanism to bring together for constructive dialogue Costa Rican banana growers, scientists, environmentalists, government officials and other interested parties... to transform banana production into a more environmentally-friendly industry. With input from these partners, The Rainforest Alliance developed a code of environmental standards for banana growers. The standards are challenging enough to markedly improve current procedures, yet possible to meet without significant sacrifices in banana production. These standards will be revised and strengthened over time to keep pace with changes in knowledge, technologies, and practices. Banana Producers from any country may participate in this program. Those that comply with guidelines will be awarded the Eco-O.K. seal of approval to distinguish their environmentally-healthy bananas in the marketplace.”

To become certified, a plantation had to pay for an audit by a team of scientists sent by The Rainforest Alliance. The field evaluation was conducted by three inspectors and was then followed by an independent review Board examination to determine final certification status. Successful farms were listed as pre-certified (intent on obtaining certification) or certified. Pre-certified farms would have to undergo inspection again to become certified and could not use the Eco-O.K. seal of approval until they were fully certified. Certified farms could use the seal; they received yearly re-inspections and would be subject to possible random spot check inspections at any time.

As of November 1994, five banana plantations had obtained certification and the right to use the Eco-O.K. seal. Four of these farms were located in Costa Rica and the fifth was in Hawaii,

U.S.A. Only Platanera Rio Sixaola and the Hawaiian farm actually used the Eco-O.K. seal to promote their bananas. The other three plantations sold their bananas through one of the Big Three growers. None of the Big Three wanted to market Eco-O.K. bananas while they still had non-certified bananas on the market.

Seven additional banana plantations had Eco-O.K. pre-certified status as of November 1994. All seven were owned by COBAL (Chiquita Brands Costa Rica). COBAL already had two certified farms and expected to have almost half of its plantations certified by early 1995.

The Eco-O.K. program required that banana plantings be buffered from watersheds and roads by a minimum of 10 meters of native trees and vegetation. This buffer zone was to be 30 meters around worker housing, schools, clinics, and other infrastructure. A 100 meter buffer was required around natural ground water sources (springs) and any newly constructed worker infrastructure. In addition, no clearing of primary forest was allowed, and the plantation needed to have a plan for soil conservation.

Eco-O.K. also required that all workers wear protective clothing and take showers after applying chemical herbicides, nematicides, and pesticides. Workers and their families had to be educated in the environmental issues of banana farming. The plantation had to comply with all local laws. No substances banned in the U.S. or E.C. could be used on the plantation. Agrochemicals were to be safely and securely stored, and no one under age was allowed to administer them. All plastic used was to be collected and recycled. All water used was to be cleaned of sediments (e.g. latex, etc.) before being returned to the environment. Plantations were encouraged to cut solid waste production through reuse and recycling, and by forming solid waste management plans for worker dwellings.

At the same time however, it was possible to get Eco-O.K. while continuing to use chemical pesticides, herbicides, fertilizers, and nematicides as long as workers were provided with the correct protective clothing and showers, and the chemicals were stored safely. Costa Rican law already required these actions. The only new Eco-O.K. requirements beyond existing Costa Rican law were the recycling requirements.

Bernardo Aguilar, of the School for Field Studies, Costa Rica, criticized the accomplishments of the Eco-O.K. Banana Project in a paper he presented to the Biennial International Conference on Ecological Economics that was held in Costa Rica in October of 1994. His study showed that Eco-O.K. requirements did nothing to diminish the overall energy usage of a banana plantation; he also criticized The Rainforest Alliance for not addressing the issue of energy consumption at all in the Eco-O.K. requirements or goals.

PLATANERA RIO SIXAOLA VS. ECO-O.K. BANANA CULTIVATION

Platanera Rio Sixaola qualified as the world's first Eco-O.K. certified banana plantation, without having to change any of its production methods.

“It’s a matter of conscience for me. I’m doing the most organic banana possible. It’s

an issue of life, you see. We don't have any right to destroy the environment.”
noted Mr. Ribniger

Platanera Rio Sixaola also exceeded almost all of the standards of the Eco-O.K. program. For example, although the Eco-O.K. program allowed the continued use of chemical treatments on certified banana plantations, Platanera Rio Sixaola's bananas were grown without the use of any chemical fertilizers, herbicides or nematicides. Mr. Ribniger explained that this strategy had been doubted by many in the Costa Rican banana growing community.

“When I started my farm without using any herbicides, or chemical fertilizers and nematicides, all of the other banana farmers said, ‘You're crazy Volker. You will never harvest one banana on your farm.’”

Platanera Rio Sixaola used organic fertilizer, biological nematicides, and planted ground covers like araxis (a member of the peanut family) and “rat's ear” instead of using herbicides. These vines also had the added bonuses of preventing soil erosion and fixing nitrogen into the soil (a very important nutrient for the bananas)."

The plantation always used a sedimentation tank to remove the latex from the water it had used, and then returned it to the farm to biodegrade in the sunlight. Eco-O.K. allowed this latex to be thrown away. All of the workers lived at least a kilometer from the plantings rather than the required 30 meters. Platanera Rio Sixaola had always shredded its waste bananas to use them as compost on the farm while Eco-O.K. allowed these bananas to be discarded. Unlike other Eco-O.K. farms that were using a chemical fungicide to combat crown rot after processing, Platanera Rio Sixaola used an organic wax made from soy and African palm oils. Platanera Rio Sixaola never used foam rubber pads to protect their bananas from rubbing against one another, and they had always had an agreement with their supplier of protective bags to buy the bags back and recycle them. They were also trying to use less pesticide by employing mainly white bags (pesticide free) to protect the banana bunches with some blue bags interspersed amongst them in a 80:20 ratio of white to blue.

Platanera, however, could not avoid using a chemical fungicide to combat Black Sigatoka. Mr. Ribniger regretted this, but there was no other way to take care of this harmful pest which could wipe out an entire plantation. However, by conducting visual spot checks throughout the plantation, Ribniger had limited the aerial applications of the fungicide to two times a month rather than three. Eco-O.K. did not require this diligence. Further, as of November 1994, Ribniger was awaiting a shipment of 3,000 plants of a strain of banana that was resistant to black Sigatoka, and he was working on a way to reduce the farm's energy consumption through the reuse of water.

PLATANERA RIO SIXAOLA'S ENVIRONMENTAL CERTIFICATION

Platanera Rio Sixaola was the first banana plantation in the world to be certified Eco-O.K. by the Rainforest Alliance. The Plantation received its certification at a press conference attended by the German ambassador to Costa Rica and the Costa Rican Minister of Agriculture on July 21, 1993.

STRATEGIC OPTIONS FOR PLATANERA RIO SIXAOLA

As of November 1994, the costs of operating Platanera Rio Sixaola were still almost \$2 more than revenues for every box of bananas they produced. Mr. Ribniger was vigorously exploring numerous options to try to raise revenues.

Platanera Rio Sixaola was going to test the new strain of bananas that were resistant to Black Sigatoka. These bananas were said to taste more like an apple rather than a normal banana. Mr. Ribniger thought that this might be an opportunity to create a new market by offering the consumer a new fruit with a new taste that could also be grown organically. If consumers accepted these bananas, then Mr. Ribniger would have to make a decision about whether to replant any, part, or all of the plantation's 120 hectares (297 acres). While this would entail a large capital outlay as well as lost revenues while waiting for the bananas to mature, the fact that they were completely organic might also give them a higher market price. Some industry experts, however, had rejected them because they said that these bananas tasted "like cardboard".

Mr. Ribniger was also working on developing a strategy to promote the plantation and its bananas apart from Eco-O.K. because the plantation's environmental standards were more stringent.

"I'm not sure how we should advertise our bananas... how or even if we should use the Eco-O.K. symbol. We need to promote the *farm*. Furthermore, Chiquita is interested in qualifying many of their farms as Eco-O.K. I believe that by 1995 or 1996 Chiquita will be able to promote that it is Eco-O.K. My farm will be more "organic" than theirs, but we will both have the same Eco-O.K. seal."

Ribniger considered giving his bananas a market name (Volker's Banana) and putting his picture on the banana stickers and boxes much like Orville Redenbacher had done with popcorn. He also had test results from an independent lab that said his bananas averaged 128 mg. of vitamin C, and he had read an article in a German magazine that said the average banana contained only 110 mg. of vitamin C. He had other independent lab tests that said that his bananas were free of all pesticide, nematicide, and herbicide residues.

"I want to figure out how to have consumers pay more for bananas from my specific farm. I don't want to put two stickers on my bananas because that will be the strategy of the multinationals. For example, 'Chiquita/Eco-O.K. or something like that. We have to create a consciousness that there is such a plantation as ours in Costa Rica. Then, consumers would buy my bananas because they know that my plantation engages in the highest level of environmental practices. How can I do that?'"

Ribniger was also thinking of making Platanera Rio Sixaola a tourist destination. He already knew of a coffee farm (Cafe Britt) in Costa Rica that was successful in attracting tourists to their farm for a tour and then getting them on a mailing list to receive their coffee by mail. Unfortunately, Mr. Ribniger noted, bananas could not be sold this way.

“The problem with bananas is you can’t sell them directly. With coffee, cut flowers, or apples you can, but with bananas you need the ripener.”

Due to the highly perishable nature of bananas, they had to be picked green and ripened on their way to the consumer.

Platanera Rio Sixaola was located four hours away from the capital city of San Jose. It was within 20 Km. (12 miles) of three national parks, beautiful beaches, rain forest, and abundant bird watching. The plantation also bordered Panama. He was trying to think of some way to make a combination tour package in the area that would include his farm.

Exhibit A

Cost per Box

TRANSPORTATION	0.42
LABOR*	1.91
OVERHEAD	0.28
PACKAGING MATERIALS (box, plastic bag, glue)	1.37
PLANTATION SUPPLIES**	1.12
FINANCING	1.55
TAXES, INSPECTIONS, & DUTIES	0.57
TOTAL	7.22

*Labor includes: filed workers (\$0.27), processing & packaging workers (\$0.25), planting & plant maintenance workers (\$0.51), drainage maintenance workers (\$0.31), administration (\$0.10), and social security, health, & labor taxes (\$0.47).

*Plantation supplies include: organic fertilizer, biological nematicide, Black Sigatoka fungicide aerial spraying, and crown rot wax (\$0.93) protective white & blue bags, plastic twine, and identification ribbons (\$0.19).

Exhibit B

EN ARMONIA CON LA TIERRA



Primera Plantación de Banano a nivel mundial certificada
por el proyecto ECO-O.K de Rainforest Alliance.

The FIRST Banana-Plantation worldwide
certificated by Rainforest Alliance ECO-O.K. projet.

ERSTE Bananenplantage weltweit von
Rainforest Alliance ausgezeichnet - ECO-O.K. Projekt.



Producido por:
Platanera Río Sixaola de Costa Rica
