



the faces of the oil palm

The relevance of the oil palm agro-industry in Colombia

The Faces of the Oil Palm

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THE FACES OF THE OIL PALM

Much is said about the oil palm, but few people stop to ask what this crop means to Colombia and to its people.

The furthest experts go is to point out that we are witnessing a highly successful example of agricultural development, an agro-industry which is the main provider of raw materials for the production of edible fats and oils, soaps and other derivative products. Too frequently, these people neglect to highlight something which defines the oil palm-growing industry in Colombia: that for over 50 years it has been shaped by Colombian entrepreneurs, farmers, and workers, and that it is an economic activity with deep social and territorial roots, through which whole communities play out their daily lives, and therefore, an axis around which their identity and sense of belonging revolve.

The oil palm represents life itself to thousands of Colombians: it provides them with daily sustenance, stability and wellbeing. It is a source of opportunities for them and their families, and the pillar on which they build their dreams for the future.

It would be true to say, then, that the oil palm is not simply an agro-industrial activity and a source of wealth for Colombia. It is also history, culture, promise for the future and wellbeing. Above all, it is commitment: a commitment to the people, to the land, and to development.

These are the many faces of the oil palm, those which reveal and express themselves to people who visit the traditional zones of production, spread out over the length and breadth of our country.







The oil palm is
HISTORY

50 years of national activity, a quarter of our republican life.

In Colombia, the potential benefits of cultivating oil palms of the *Elaeis guineensis* Jacq. variety were first talked about 80 years ago; systematic work was carried out on genetic selection 60 years ago; and the first commercial plantations of this species were established in the middle of the last century. Since then, this agro-industry has experienced sustained growth in levels of both crop cultivation and production.

The initial phases of the palm oil agro-industry received extra momentum through the work of a group of Colombians who believed in the oil palm business, took its development into their own hands and guaranteed its viability in areas where working within governmental and institutional frameworks was an alien concept.

These pioneers, whether they were young professional people in search of fortune, businessmen looking for new horizons in their entrepreneurial activities, or farmers benefitting from agrarian reform programs, were considered to be crazy, daring to get involved with a crop which most people in Colombia had never heard of before. Many similarities can be found in the stories they tell: they all allude to the enormous sacrifices that their palms required of them before yielding fruit; and they also tell of the happiness that accompanied the production of the first oil.

We set up the palm oil mill ourselves (...). The day that we inaugurated it, we all covered ourselves in palm oil: us, our wives, our children, the workers. Everyone! Just imagine... we were so looking forward to it, after all our hard work....and to see it come true!

John Sanz Gomez
Oil palm planting pioneer in Colombia

Each individual's memory of that moment, which has different dates, backdrops and circumstances, becomes collective through the shared feeling of triumph over adversity. Such is the foundation stone in the history of palm production in Colombia and the legacy of those who had the spirit and the vision necessary to conquer inhospitable territories and dare to have a go at something new, becoming colonists of a new kind, that is to say agro-entrepreneurs.

Sustained effort

Palm oil production in Colombia grew out of the need to stimulate national production of edible oils and fats. To achieve this, a shared risk strategy was introduced towards the end of the 1950s. This was a kind of productive alliance based around the planting of oil palms; it involved the constitution of mixed partnerships, in which the State participated as a capital investing partner and gave private partners the option of buying as soon as the business showed profitability; the State also conceded financial benefits and guarantees for marketing the product.

These incentives did not last and were not far-reaching enough to satisfy the requirements of the oil palm as a late-yielding product. For this reason, the development and consolidation of the agro-industry relied mainly on the continued efforts of private investors and their guild. The first generations of oil palm producers had to pave the way through inhospitable lands, furnish them with infrastructure and services, train the workforce needed for the plantations, and above all, learn that the oil palm requires business-style management and technological support. Between 1960



The idea of promoting oil palm growing in Colombia goes back to the 1920s, when Florentino Claes, the Director of the Botanical Gardens in Brussels, brought the first oil palm seeds to Colombia, and tried to entuse government representatives with the idea of cultivating the crop on a massive scale. In the photo, the first bunch of oil palm fruit harvested in Palmeras de Occidente, in the Buenaventura region, 1960.



The beginnings of the oil palm industry in Colombia were driven mainly by small and medium scale ventures, in contrast to Malaysia and Indonesia, the world leaders in palm oil production today, where the crop expanded through the activities of medium and large scale companies, aided by state policies which facilitated the product's exportation.



The model of the strategic alliances today, in which the State provides incentives and financial resources, is a reminder of the alliances of the past, which paved the way to the formation of the first oil palm growing companies in the country. In the photo, the first autoclave in Guaicaramo (Barraanca de Upia, Meta).

and 1990 these pioneers managed to found agricultural companies along the middle and lower right-hand border of the Magdalena River; in the Llanos Orientales, and in the southwest corner of the country; they planted 120,000 hectares of oil palm, destined for the domestic market.

The biggest challenge that the pioneers had to deal with was organizing agricultural businesses, because this hadn't been done before in Colombia, and it's really necessary for oil palm cultivation. Their plantations were never farms in the true sense of the word. They looked like farms on the surface of things, but they were businesses from the beginning. They all had managers, for example. And who had ever heard of a farm with a manager in Colombia?

In those days, the only agricultural organizations which worked within a business framework were the big sugar plantations in the Valle department. But they were all near the city of Cali. On the other hand, the African oil palm plantations were set up in the most isolated regions of the country, in marginal areas, without infrastructure, where the companies had to tackle issues which should have been the responsibility of the State.

Agustin Uribe Leyva

Employee of Indupalma (San Alberto, Cesar) between 1965 and 1994

In the second half of the 1980s, in Colombia, palm oil production underwent a period of surprising dynamism. Simultaneously, large plantations and a whole host of smaller-scale ventures sprang up. Their products were aimed increasingly at international markets. Today, the country exports almost 40% of its total production.



It was in this way that the new generations of palm oil producers inherited the infrastructure, the experience and technical knowledge gained by their predecessors. However, they were confronted with the need to compete in the international market, where the key producers worldwide offered similar yields to those in Colombia, but at lower costs. This required them to constantly improve their businesses, through increasing productivity and efficiency, for which they relied on support from sectorial organizations.

Throughout its beginnings and phase of expansion, the palm oil business developed mainly under a model of vertical integration, through which companies owned both the crop and the palm oil mill. At the beginning of the 21st Century, the agro-industry experienced a shift towards a more horizontal organizational model. This model was made up of plantation owners, processing plants, workers' organizations and small farmers making special contracts or strategic alliances between themselves, and building up a coordinated system of production with mutual benefits, in which all the parties are interrelated on the same hierarchical level.



8th October, 1967: Indupalma inaugurates its new palm oil mill. The workers remember the shiny new machines, the red floors, the long lines of vehicles bringing in the guests... Also, still fresh in people's memories is the image of the presidential helicopter landing next to the mill and the moment when Carlos Lleras Restrepo stepped out of it.

The oil palm agro-industry's guild

The National Federation of Oil Palm Growers, Fedepalma, was founded in 1962, and throughout its almost half century of existence, has worked to create optimum conditions for the development of the agro-industry on a national scale, competitiveness within the sector, commercialization of oil palm products and the exploration of new frontiers for the oil palm business.

Fedepalma, as an organization, has been shaped by business-people and entrepreneurs whose vision and desire for progress and development have been decisive for the expansion and consolidation of the palm oil industry in Colombia. Fedepalma has always encouraged analysis of the markets and inherent risks of the busi-



Hipinlandia (south of Cesar department) in 1959: planting *in situ*.

Patuca (Magdalena department) was the first commercial oil palm plantation in the country. Its first oil palm trees were planted in 1945 with Sumatra Deli seeds imported from Honduras.



ness and the study of what is currently happening in the sector, to provide the palm oil producing community with a broad base of reliable information at the right time to be able to make their own investment decisions.

Fedepalma grew up as a key player within the initial strategy to stimulate the palm oil industry, and to guarantee permanent dialogue between the palm growers and the government. It operated initially thanks to a group of visionaries, bent on convincing the oil palm growers of the need to work together to undertake activities that individual organizations would not be able to carry out alone.

As a result of the success of the National Coffee Growers Federation, many other organizations began to emerge, among them the National Cotton Growers Federation. With this experience in mind, I sold the idea of setting up the Palm Growers Federation to the manager of the Instituto de Fomento Algodonero, IFA, who replaced me, and to my partners from Monterrey, so that we could organize our representation to the government and other institutions. The idea was developed, we began to get together, and the Federation of Palm Growers was founded.

Jorge Ortiz Mendez

In its first years, the activities of Fedepalma concentrated on developing policies which would encourage oil palm growing.

At the beginning our organization was a kind of club. The people who belonged to it were those of us who believed that the oil palm growers should work together. In those days, Fedepalma's activities consisted of building up a relationship with the government. Every time we came up against a difficulty, the group would get together. Everyone was prepared to work, and we could

say that in those days, the number of meetings we had was proportional to the number of problems we had. The Federation never ceased to be active. It organized conferences, we went out and had a good time, and laughed a lot. We were all good friends and we used to make fun of one another.

Mauricio Herrera Velez

As the agro-industry developed and national economic policy changed, Fedepalma's activities became more diversified.

To understand and control the plagues and diseases which attacked the crops in the 1960s, and which hadn't been experienced in other parts of the world, Fedepalma's leaders organized group efforts to carry out investigation projects and to ensure the transfer of technological know-how.

In the face of crop yield growth rates coming to a standstill, and the fall in palm oil prices towards the end of the 1970s, the Federation promoted initiatives to introduce technological development to the activities carried out in the field and the extraction process, thereby increasing productivity and profit margins.

In response to the large number of plantations which were operating in the 1980s, giving rise to difficulties in terms of marketing the oil palm products, Fedepalma focussed on setting up mechanisms which would ensure fair and equal terms for marketing products, in the face of internal and external competition; it also began to explore alternative uses for oil palm products.

With the introduction of an open market economy in the 1990s, the organized palm-growers created institutions which would be able to respond to the new rules of the game and support businesses in their objective to continue improving efficiency and competitiveness.

At the dawn of the new Millennium, the Colombian palm-growers focussed their efforts on creating conditions to ensure the sustainability of the agro-industry in terms of its production, social and environmental impact, and on exploiting the potential of palm oil as a healthy product and as a source of clean and renewable biofuel.

Guild leadership at the service of the palm-growing industry and the country

Fedepalma's leaders, over a period of half a century, come from different personal and professional backgrounds, but they share the fact that they are businessmen and the conviction that oil palm growing is a way of contributing to the country's progress.



Jaime Vergara Restrepo



Jorge Ortiz Mendez



Ernesto Jaramillo Upegui

Presidents of the Fedepalma Board of Directors



Jorge Reyes Gutierrez



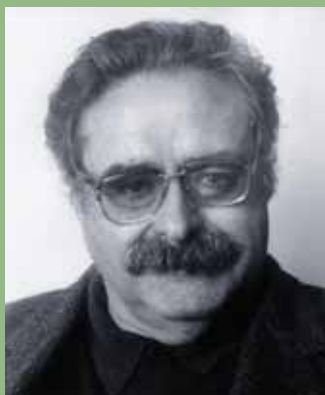
Jose Mejia Salazar



Ernesto Vargas Tovar



Carlos Murgas Guerrero



Mauricio Herrera Velez



Cesar de Hart Vengoechea



Eliseo Restrepo Londoño



Mauricio Acuña Aguirre



Antonio Guerra de la Espriella
Director Ejecutivo (1982-1989)



Jens Mesa Dishington
Presidente Ejecutivo (1989 -)

The presidents of the successive Fedepalma Boards of Directors, apart from being responsible for implementing the sectorial policies, are representative of the dozens of Colombians who have generously participated in the palm industry's management organizations. All of them have undertaken key responsibilities in both public and private sectors, and their vital professional contributions have not been limited to promoting the interests of the palm industry subsector; as individuals and as a group, they have contributed creatively to the design and implementation of decisive policies and programs aimed at developing the national agricultural and stockbreeding industry as a whole.



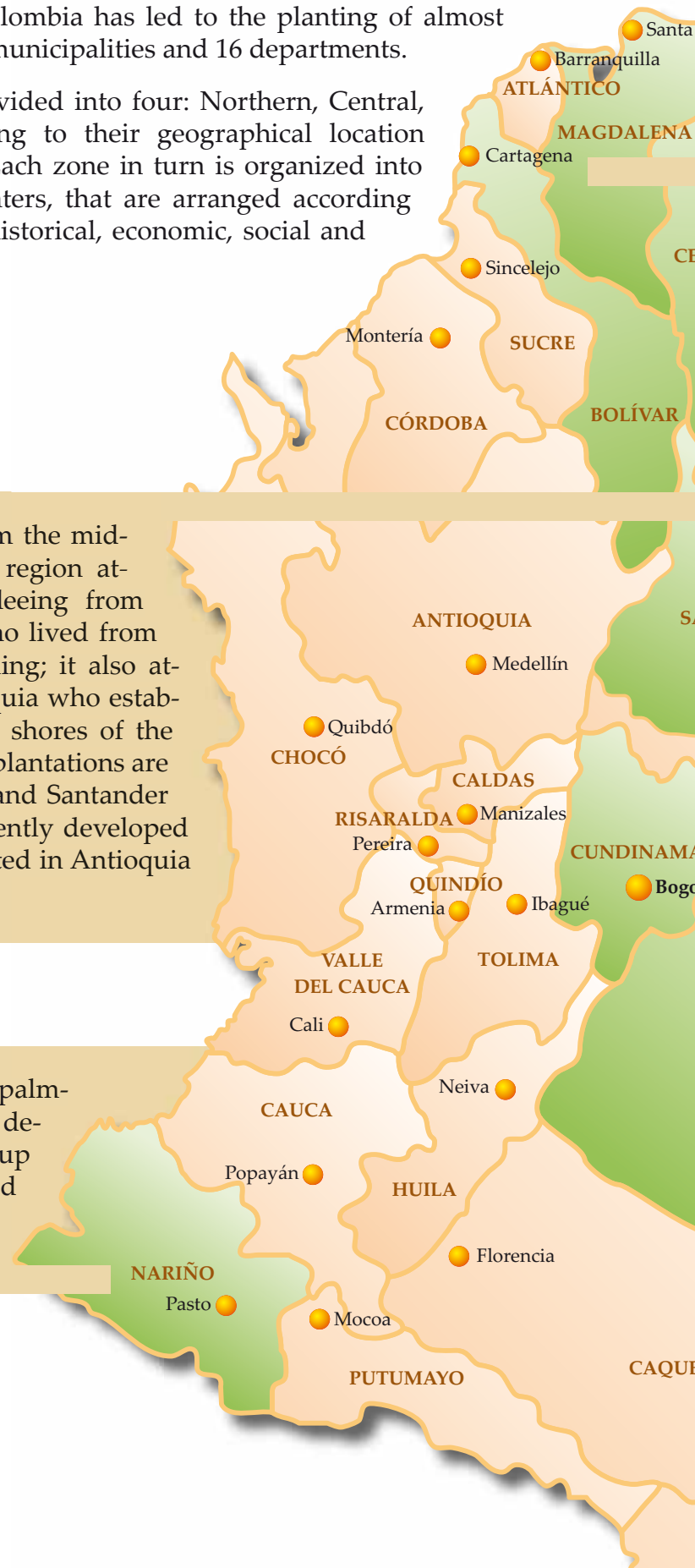
Palm growing zones

The oil palm's long journey in Colombia has led to the planting of almost 300,000 hectares, spread over 76 municipalities and 16 departments.

Oil palm growing zones are divided into four: Northern, Central, Western and Eastern, according to their geographical location within the national territory. Each zone in turn is organized into regions and palm growing centers, that are arranged according to each region's geographical, historical, economic, social and cultural conditions.

THE CENTRAL ZONE. From the middle of the last century, this region attracted people who were fleeing from the political Violence and who lived from fishing and subsistence farming; it also attracted investors from Antioquia who established cattle farms along the shores of the Magdalena River. The oldest plantations are found in the south of Cesar and Santander departments, while more recently developed oil palm enterprises are situated in Antioquia and Northern Santander.

THE WESTERN ZONE. This consists of the palm-growing area around the town of Tumaco in Nariño department. Some palm-growing businesses were set up on land previously used for timber. Others occupied unused land or overgrown land which had already been colonized.





THE NORTHERN ZONE. This is where the oil palm was first exploited commercially in Colombia. Oil palm cultivation first started on land that was previously used for other commercial crops, such as banana, rice, cotton and cattle farming. Historically, the oil palm growing centers were situated in the Magdalena department and the north of the Cesar department.

Several plantations were set up from the mid-1990s onwards in Uraba, part of the Choco department, and bordering with Antioquia. The development of these plantations has raised serious concerns, as they were founded on land (including areas of primary forest) belonging to Afro-Colombian communities who have collective rights to the land and because it has been associated with serious human rights violations. These issues have been investigated and documented by the Colombian authorities and by the Inter-American Commission on Human Rights of the Organization of the American States (OAS), which in early 2006 urged the Colombian government to protect the affected communities.

THE EASTERN ZONE. The oil palm growing industry here developed on land which previously had been used for rice and cattle farming, in the departments of Meta, Casanare and Cundinamarca. More recently, palm growing areas have also been developed in Guaviare.

Zone	Planted area in hectares	% of total production of crude palm oil
Northern	101,054	28.6
Central	71,091	28.5
Eastern	96,367	30.7
Western	35,256	12.2

Based on data from 2006.

Oil palm agro-industry, the driving force behind development

The agro-industry began to develop on recently populated land, which lacked infrastructure, and where the presence of the State was hardly noticeable, but it quickly became the driving force behind the development of these regions.

Around the oil palm plantations the small clusters of houses that had been there for years turned into villages equipped with public services, small towns grew into municipalities and regional economies took off.



When I got here 27 years ago, San Alberto was like a T-Junction. It was called 'The Crossing', and it was the point where the roads linking Bucaramanga and Aguachica crossed, north to south, and there was a turn-off to La Palma. And there were a few small houses along these roads. In those days, San Alberto was just a small unknown village. Today it is a town with 20,000 inhabitants and with intensely active manufacturing and commercial industries.

The growth of San Alberto has a lot to do with the growth of Indupalma, because workers arrived from other parts of the country, bringing their families with them, or settling here and having families, and then the families started to live in houses outside the plantations. This is partly how San Alberto evolved.

Carlos Arturo Ortiz

Indupalma employee (San Alberto, Cesar department)



With the help of the companies, we've achieved a lot. We've managed to improve the roads. If we look back ten years, there weren't any roads. The roads inside the plantations were in good condition, because they spent money on them, but not much money was invested in public roadways, they always expected the local government to get on and do its job. But with the help of the companies, we've made agreements with the municipality and today we have properly paved and emulsified roads, and there's a plan to emulsify the public roadway that goes all the way around La Palma.

Raul Guerrero Madriara

Palmas Bucarelia employee (Puerto Wilches, Santander)



The first management building at Indupalma (San Alberto) in 1965.

Monterrey (Puerto Wilches) in the middle of the 1960s.





Over the last 20 years, we've seen Inbili gradually become transformed. When I arrived, there was no electricity, houses had only one room and palm leaves were used as roofs. There were two shops. Today, the community has four stores and the same number of discos. Everyone has electrical household appliances, and they have transport – some people have cars, others motorbikes, the children go to school and college and some have left to go to Tumaco or Pasto. All this is the result of the development which has come with oil palm cultivation.

Amado Santacruz
Palmas de Tumaco (Tumaco, Nariño department)



Imbili, in the middle of the 1960s, when the palm oil from Palmar de Rio used to be transported in 55-gallon barrels.



La Loma (Acacias) is one of the pioneering plantations in the department of Meta. Towards the end of the 1960s, it was suddenly affected, along with many other plantations, by the 'Marchitez', a disease which attacks oil palms. To prevent future problems, the plantation owner planted 150 hectares of American palm (noli) and African palm (*E. Guineensis* Jacq.) hybrids, as they are more resistant to disease. As a result, he started the largest plantation of hybrids in the world.



I'm going to tell you about how we've seen all this grow: when we came here in 1987, the two little nearby villages, Dinamarca and Surimena, had just a few houses. There has been so much growth that Dinamarca now has four neighbourhoods; and there's a plan to build 60 houses in Surimena.

Twenty years ago, these tiny villages were practically cut off from surrounding areas. The roads leading to them were difficult and in bad condition. It used to take us three hours to get from Yaguarito plantation to Villavicencio. As soon as the plantation machinery arrived, the roads were repaired: first the one from Yaguarito to Acacias. That was a major change and really contributed to the development of the villages in the region.

Jaime Ospina Suarez
Aceites Manuelita S.A. employee (San Carlos de Guaroa, Meta)



The oil palm is

AGRO-INDUSTRY

The structure of the oil palm industry is one that generates development, as it produces a raw material which requires processing to turn it into consumer goods with a range of uses.

Given the right soil and climatic conditions, oil palm yields depend on the quality of the seed used, the selection of the seedlings, the preparation of the land for planting, the use of cover crops, and the continuous care of the plantation.



The agro-industrial process takes place in two stages:

- The agricultural stage, which consists of setting up nurseries, soil preparation, planting, looking after the crop (fertilizing, ensuring that it remains free from disease), and the harvesting of its fruits. This requires much care and investment at the beginning, and indeed continual care throughout its productive life, which usually spans more than 25 years.
- The extraction stage, which consists of processing the palm fruit to obtain two products: crude palm oil and palm kernel oil. This process takes place in a palm oil mill and requires specialized machinery.



Business culture

It is essential that the agro-industrial process of the oil palm be managed within a framework of corporate criteria and vision. This is because it operates with a high level of fixed capital investment and skilled workforce, a solid scientific and technological base, a high degree of interdependency within the decision making structure and efficient coordination along the production chain. In the face of present challenges, new developments are taking place:

One of the tasks we need to carry out is that of strengthening the business culture within the oil palm industry. This must include both horizontal and vertical integration in order to improve competitiveness and ensure that the agro-industry can truly reap the benefits generated along the value chain. The sector must carry out a 'revolution' in its business structure, paving the way for fusions and alliances through which modern, efficient, large-scale production units can be consolidated. This will represent a qualitative advance which reaches far beyond simply making marginal improvements to the production process.

Jens Mesa Dishington
Executive President of Fedepalma

The centers of oil palm production

Each plantation or group of plantations, in addition to the palm oil mill where the harvested fruits are processed, constitutes an oil palm growing center.



The design of the plantation, the layout of the plots of land, and roadways, its closeness to the mill, are all decisive for minimizing the time between harvesting and the extraction process, to guarantee the quality of the product and optimize production costs.

The production chain

The products resulting from the oil palm agro-industry continue to receive added value through their use in different segments of industry as ingredients in numerous processed foods, raw materials for the production of animal food concentrates, and in the production of non-edible products of great economic value.

Olein and Stearin are obtained by fractioning palm oil. Olein takes a liquid form in warm temperatures and can be mixed with any vegetable oil to be presented to the consumer as edible oil. Stearin takes a more solid form and is used to produce fats, particularly margarines, and those used in soap making.

Palm kernel oil is useful for baking, confectionary and the manufacture of cosmetics, and palm kernel meal is used to produce animal concentrates or nutritional supplements for animal consumption.

The agro-industry operates as the basis for a whole series of industrial activities which have an important impact in social and economic terms, as shown in the following diagram.

The oil palm production chain: stages and products

Agro-industry			Industrial transformation		
Agricultural Phase			Industrial Processing of Oils and Fats		Oleo-chemical Industry
Stages	Crop	Processing	Production of raw materials and intermediate industrial products	Production of basic consumer goods and inputs for other industries	Production of products and industrial raw materials for other processes
Products	Palm fruit	Crude palm oil	Palm oil RBD Palm olein RBD Palm stearin RBD Fatty acids	Edible liquid oils Shortening Margarines Frying fats Baking fats Confectionary fats Fats for ice-cream	Raw material: Fatty alcohols Emulsifiers Methyl esters Glycerol Finished products: Fuels Lubricants Paints Sulfates
		Palm Kernel Mechanical process (expeller) Chemical process (solvent) Crude palm kernel oil Palm kernel meal	Palm kernel oil RBD Palm kernel olein RBD Palm kernel stearin RBD	Soaps Vanaspati Mixes for animal feed concentrates	



The oil palm is
CULTURE

A way of living, working and dreaming...

Each morning, about a hundred thousand Colombians get ready to begin work in the cultivation, extraction and administration of the palm oil business. They belong to diverse communities, living in separate regions of the country, each with their own historical background. Their use of Spanish varies from region to region, and all the shades of our mixed-race heritage are reflected in the colour of their skin.

Oil palm provides a focal point for all this diversity. For these people and communities, it is a vital part of their daily lives. They share perceptions, attitudes, routines and customs, as well as the way they inhabit and understand the world around them.

Those who work in palm oil production, whether in the country, in the palm oil mill or in an office, all share the vital experience of being oil palm growers, and of forming part of the machinery of an agro-industry characterized by its variety of work and by multiple and simultaneous interactions through which agricultural, extraction, industrial, commercial, rural, urban, national and international processes converge; in short, an agro-industry whose production centers bring together and express all the diversity of Colombia.

The magic of the oil palm is in the way it attracts people who have different ways of thinking, and from different parts of the country. It is a space for cultural pluralism, where people with different customs all mix together and new customs are born from the old ones, and the new ones promote development.

Edgar Javier Garcia Estupiñan
Teacher at Indupalma's school (San Alberto, Cesar)





Living together in diversity is an essential characteristic of the oil palm growing world. Another is the high level of incessant, planned activity. The permanence of the crop which yields its fruits continuously throughout the year and during a quarter of a century brings job stability and the possibility of putting down social roots. It never brings stillness or passiveness. The feature of the oil palm as a late yielding crop, its productive cycles, the biological threats it faces, and the volatile oil and fats markets cause the palm people to be constantly alert to the future and forward-thinking.

Willingness to learn is also important. Perhaps this is related to the technological infrastructure on which the agro-industry is based. Some jobs may not require a high level of education, but they all require certain skills and particular ways of doing things. Added to that are the personal and socio-entrepreneurial requisites for associative work, which gathers force from day to day, gradually imposing a new organizational model of working within the sector.

Education, training and the transfer of technological know-how, are at the heart of the activity of businesses involved in the palm industry. They provide the business with a competitive edge and the possibility of a fairer distribution of its benefits. Few agricultural or agro-industrial enterprises in the country promote the training of their personnel with such vigor as do those in the oil palm sector.

The effect is evident in terms of personal development, in the sense that it opens up the options available to individuals and strengthens their skills as professionals, entrepreneurs, workers,



citizens and as human beings; they are also more willing to be open to change and innovation, both as individuals and as organizations.

Even more significantly, these vital personal attitudes extend to people's personal lives, and become expressed through life goals in which the education of the younger generation becomes a priority.

All these effects are set against a background of social practices and ways of thinking belonging to the rural environment and patriarchal societies, but they encourage people to re-evaluate such practices and to modify them, all the time being enriched by them and evolving with them.

These are the materials with which the identity, vision and daily activity of palm-growing Colombia have been shaped.



Before the break of day, the plantations situated in the Northern, Central, Western and Eastern oil palm zones of Colombia are hives of activity, in which men and women take up their work tools or get their animals ready for the day ahead. Throughout the course of the day, with similar schedules, all these oil palm workers, scattered over our land, carry out identical tasks, succeed and struggle through similar situations, and even though they may have different vocabularies, they refer to similar realities. They know they are not alone, that in different regions of the country and in different countries of the world, there are other people just like them, who live in warm, green, humid places where oil palms grow, who have similar cultural practices, and who work to provide their country and the world with an oil which could be said to be a natural wonder, because of its diversity of uses.



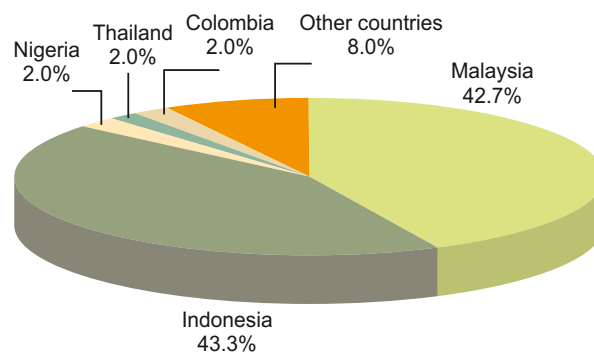
Painting by Belsida Marivel Rivera – Imbibi, Nariño (2006).



The oil palm is
WEALTH

The increasing volume of its output, its constant improvement in productivity, and the economic dynamics it generates, make the oil palm agro-industry a prime example of successful agricultural development, representing an important contribution to the national economy.

Five decades of commercial exploitation of the oil palm have positioned Colombia as the leading producer of palm oil and palm kernel oil on the American continent, and fifth in the world.



Distribution of world production of palm oil, by countries (2006)

Production levels and increasing yields

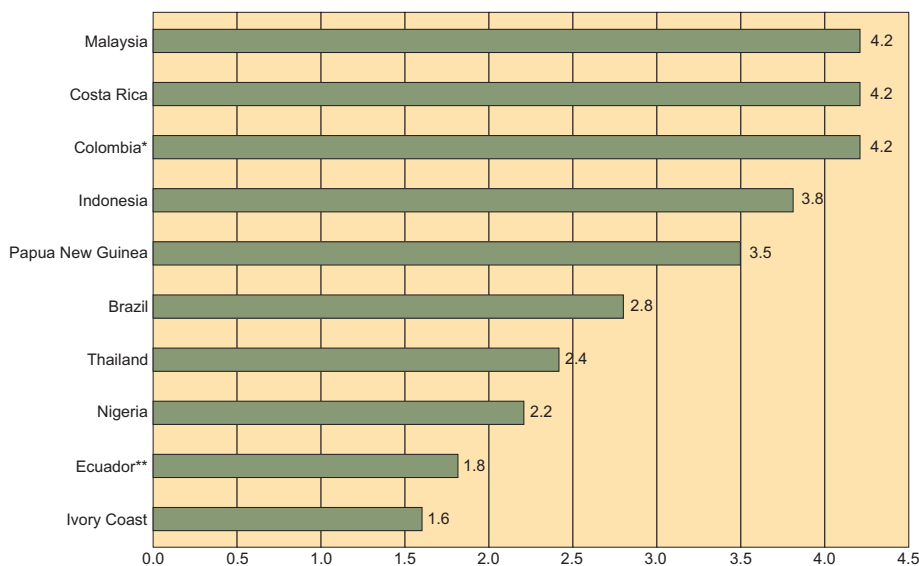
The planting of oil palm and palm oil production in Colombia has shown a trend of permanent growth.

Amount of palm oil and palm kernel oil produced: 2001 -2006

Year/Production (thousands of tons)	2001	2002	2003	2004	2005	2006
Crude palm oil	547.5	528.4	526.6	630.0	672.0	713.5
Crude palm kernel oil	49.7	48.7	49.7	60.4	63.7	65.1

The nominal value of the production of crude palm and palm kernel oil, for 2006, was US\$ 354 million.

The Colombian oil palm zones have levels of productivity comparable with those of other countries, especially in terms of average yield per surface unit harvested.



Source: Oil World Monthly, April, 2006 / Oil World Annual 2005 / *Fedepalma / **Ancupa

Countries with the highest yield of crude palm oil (tons / hectare)

Palm oil yields in Colombia have steadily grown since the beginning of the 1990s. Nevertheless, the cost of production is significantly higher than that of the most efficient producers in the world, particularly Malaysia and Indonesia. This is partly due to deficiencies on the part of oil palm companies in implementing available technology and optimizing factors of production (access to land, credit, supplies, and technical assistance). Other factors contributing to the high cost of production are the small scales of production, and the fact that the plantations are spread out all over the national territory. Colombia's poor competitiveness in aspects of safety, transport and logistics, and the exchange rate and capital costs also contribute to this situation.

The participation of the oil palm subsector in the national economy

The oil palm has a significant share of the value of national production within the agricultural and stockbreeding sector, and particularly of the permanent crop production, with a 9.1 % share of its total value.

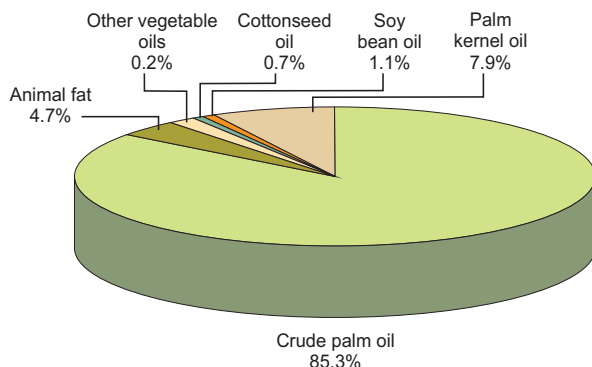


The percentage share of oil palm production in the agricultural and stockbreeding sector in Colombia

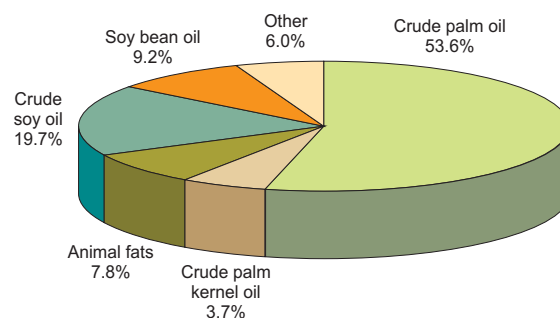


Year/share	2001	2002	2003	2004	2005	2006
Production in permanent crops	7.0	6.5	6.4	7.5	7.2	9.1
Agricultural production	3.6	3.4	3.3	4.4	4.0	5.0
Agricultural and stockbreeding production	2.1	1.9	1.9	2.4	2.4	2.9

Palm oils and palm kernel oils account for more than 90% of the national production of oils and fats and more than half of the available supply of these products. Thus, they represent the main source of raw materials required for the production of edible oils and fats, margarines, soaps and other vegetable oils used by different national industries.



Production of oils and fats in Colombia (2006)



Supply of oils and fats in Colombia (2006)



Thanks to the output of the palm growing sector, Colombia meets more than half of its internal demand for oils and fats. This is very important: there is a whole productive infrastructure which generates growing exports, creates employment, foreign currency deposits, and which possesses a knowledge of the oil palm farming and production processes few countries can boast of.

Armando Corredor Rios
 Director of Economics and Commerce, Fedepalma

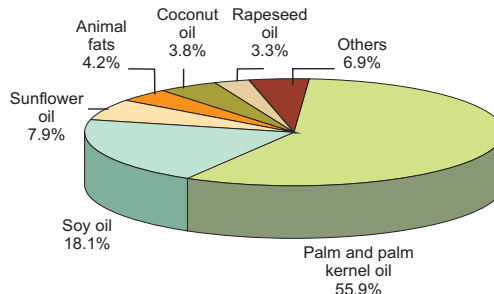
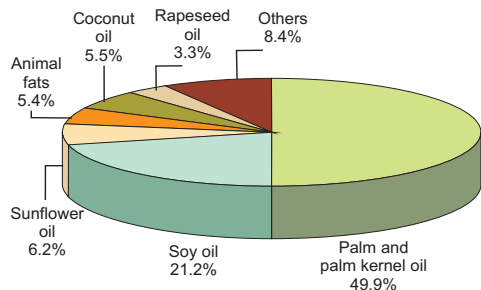
A source of foreign currency

From the 1990s onwards, the annual growth in production has, on average, exceeded the annual increase in consumption of oils and fats in Colombia by four. This has been reflected in the sustained increase in exports. While 7% of the palm oil was exported in 1995, this increased to 25% in 2000 and 33% in 2006.

Palm oil product exports (tons)

Product	2001	2002	2003	2004	2005	2006
Palm oil	147,431	111,946	158,852	248,666	247,235	237,500
Palm kernel oil	25,819	21,625	26,404	34,610	34,426	33,100
Total	173,250	133,571	185,256	283,276	281,661	270,600

The national production of palm oil represents over 350 million dollars of foreign currency deposits.



Distribution of exports of the main animal and vegetable oils and fats in Colombia

A provider of wealth for the palm growing towns and regions

The oil palm agro-industry generates and mobilizes resources which carry considerable weight within the economy of towns where it is produced: directly and indirectly, it generates stable employment and a permanent source of income, it drives demand for assets and public services, it contributes to the physical makeup of the region and builds infrastructure. Additionally, a good portion of the resources generated by the production of the small and medium-scale plantations is ploughed back into the local economy, energizing local commerce, savings, transport and other services, and all the local and regional production activity in general. This view is confirmed by accounts from the past and present of the oil palm agro-industry in Colombia, and by the people involved in the development of the oil palm industry over the last ten years.



In 2005 in Marialabaja, the total value of palm oil produced generated 2,027 million pesos, and in 2006, 2,600 million pesos. These resources entered into circulation in the municipality, stimulating the subregional economy.

Hector Florez
President of the Riego de Marialabaja District Oil Palm
Growers Association, Asopalma (Bolivar department)



In our municipality, the socio-economic impact which came with the arrival of the oil palm has been marvellous. Firstly, it changed the lives of the families in the area, who now earn on average two minimum wages per month, with what is generated by sales of the fruit. Around 300 people and their families benefit by being employed directly looking after the plantations and 100 people and their families by indirect employment. The local economy has also improved with the payment of monthly salaries, and this has attracted people from other towns and villages, the business begins to expand with other businesses related to the oil palm. The municipal administration has benefitted from the cooperative's help in repairing roadways and generating employment.

Tomas Cipriano Mosquera Calderon
Manager of the Tamalameque Palm Growers Cooperative,
Coopalta Ltda. (Bolivar department)

The development of the project attracted the interest of companies who could provide complementary services. This has brought about 2,500 million pesos into the region in the form of goods and services provided to palm oil companies.

Elmer Amortegui
Manager of the San Pablo Palm Company (Bolivar department)

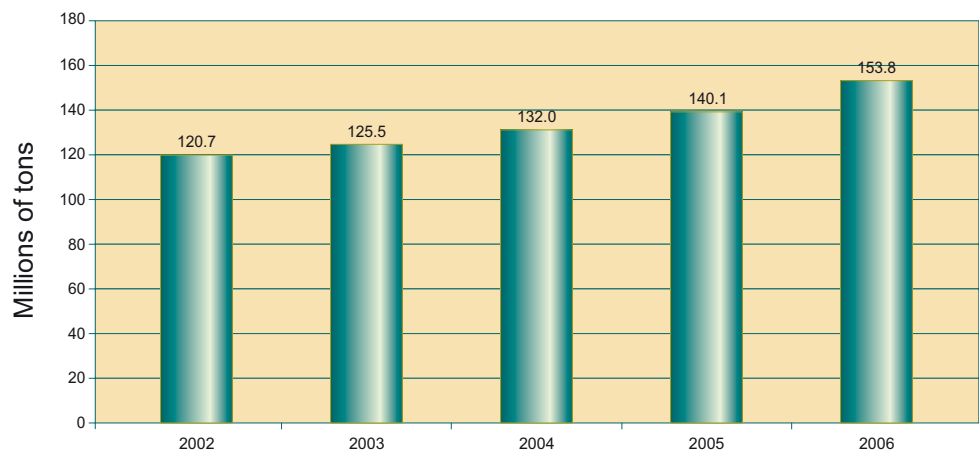


The oil palm is

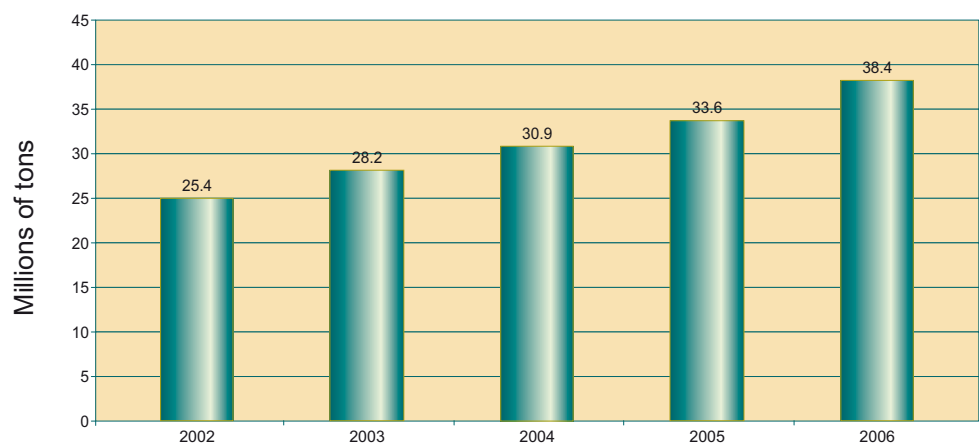
A PROMISING FUTURE

Of all the oleaginous crops, the oil palm shows the greatest economic potential, both because of its high yield (it yields between six and ten times more oil per hectare than any other oleaginous crop) and because the market for its oil is constantly growing, both in terms of production and consumption levels. It represents prosperity today, and the promise of future prosperity.

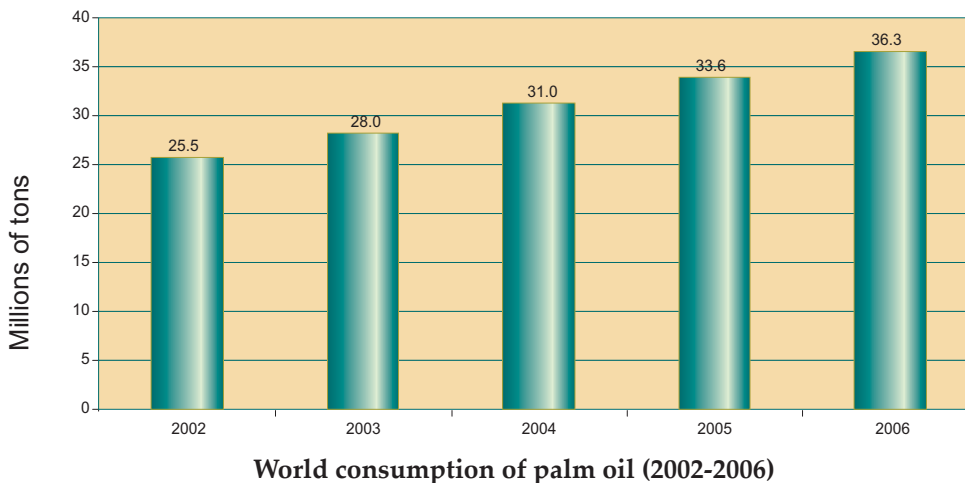
The average annual growth in oil palm production doubled that of the whole of the sector of oils and fats in the world, between 2002 and 2006.



World production of the 17 main oils and fats (2002-2006)



World production of palm oil (2002-2006)



Between 2002 and 2006 world consumption of palm oil grew on average by 6.8% annually.

The most dynamic field in the global agricultural market

Of all the manufacturing sectors in the world, the oils and fats market is the one which has shown the greatest dynamism over recent years.

The production of the 17 main oils and fats registered an average annual growth rate of 5.1% from 2002 onwards, while the world economy registered a growth rate of 3.5% over the same period. At the same time, the world consumption of these products showed an average growth of 4.4%, rising from 121.6 million tons in 2002 to 153.8 million tons in 2006.

This extraordinary surge is due to two circumstances in particular:

- The boom in demand for oils and fats from China and India.
- The new biofuel markets, open to vegetable oils, primarily in Europe and more recently in the United States.

The world production of palm oil exceeded the production of soy bean oil for the first time in the 2004 – 2005 agricultural year.



Colombia has everything going for it

The accelerated growth in world demand for vegetable oils with palm oil leading the way, has provided the oil palm agro-industry with exceptional conditions for its expansion and consolidation.

Within this context, Colombia is one of the countries with the greatest potential for development of its palm growing industry in the world. The comparative advantages which lead us to make this statement are the following:



- The fact that Colombia is a tropical country.
- The availability of land which is appropriate for cultivation, calculated to be several million hectares, without impacting on forested areas or other land of strategic interest from an environmental standpoint.
- The availability of a workforce which is willing to learn, and to develop skills needed by the agro-industry.
- The business expertise and technical know-how which has been acquired over a period of fifty years of developing the oil palm agro-industry in the country.
- The privileged geographical location of the country, perfectly positioned to attend to the needs of the North, South and Central American markets.

These advantages can only be converted into opportunities if the sector's present efforts to be more competitive are accompanied by an integrated governmental policy which supports the oil palm industry's interests, optimizing conditions for increasing productivity and reducing production costs and which generates favourable start-up conditions for new plantations.

Prospects for palm oil

There are three large focal points around which new opportunities are arising for the strategic positioning of palm oil in years to come, which will allow the oil palm agro-industry to make substantial contributions to economic growth, human wellbeing, and the conservation of natural resources and biodiversity, particularly in palm oil producing countries.

The areas of focus are:

1. The productivity of the oil palm agro-industry and the intrinsic conditions it possesses to be environmentally and socially sustainable.
2. The health benefits of palm oil, and its great versatility, enabling it to be used in a wide variety of products.
3. The potential of the oil palm agro-industry to generate energy and palm oil as an optimum source of clean and renewable bio fuel.

A healthy oil

Palm oil offers an ideal way of eliminating and reducing the level of trans fatty acids in food, which are damaging to human health.



Trans fatty acids are formed when liquid oils, such as soya and rapeseed oils go through a process of partial hydration which makes them suitable for use in the manufacture of food products such as margarines.

Recent studies show that trans-fatty acids found in food are damaging to health. Trans fatty acids inhibit the correct assimilation of essential fatty acids into the body, and raise cholesterol and LDL (the so-called 'bad' cholesterol) levels, increasing the likelihood of blood clotting and cardiovascular complications.

The problems associated with trans-fatty acids open up interesting prospects for the future of palm oil, which can be used in different products without the need to hydrogenate it and if consumed in moderation, have a neutral effect on cholesterol levels.



Palm oil is a source of available and accessible calorific energy. For this reason, it can be an important ingredient in public health initiatives aimed at tackling the problem of malnutrition among pregnant women and children in the country. In its crude form, palm oil contains important antioxidants, such as carotenes (precursors of vitamin A) and vitamin E. It also contains tocopherols and tocotrienol, which help block free radical reactions and prevent cardiovascular disease, cancer and diabetes. Furthermore, palm oil is the only edible oil in Latin America that contains high levels of tocotrienol.



Palm oil is the raw material for many cosmetic products. It does not irritate the skin, it is a good solvent, and a good protective softener, which also contains active antioxidants.



Oil suitable for frying. At high temperatures, palm oil is more stable than other vegetable oils and doesn't produce toxic substances.

An energetic crop

There is no doubt that the oil palm can be said to be an energetic crop. This is demonstrated by the use of its oils in the manufacturing of a variety of products for human and animal consumption. Also, crude palm oil and some of its subproducts are directly used in the production of biofuels and to generate energy.

Oil palm companies as biomass producers

Vegetable oil makes up a mere 10% of the total amount of biomass that is harvested from a palm plantation per year.

One hectare of a palm plantation produces annually around 20 tons of fresh fruit bunches, and 25 tons of waste palm fronds as the result of harvesting the palm fruits. Of those 20 tons, 4 tons of crude palm oil, and 1 ton of palm kernel oil are extracted, and one ton of palm kernel meal becomes available. The same process also produces sub products which are valued more and more highly by the agro-industry:

- 4.6 tons of empty fruit branches.
- 2.6 tons of press fibre (from the mesocarp of the fruit).
- 1 ton of palm kernel endocarp fragments.
- 100 tons of palm oil mill effluent.

Production of clean, renewable biofuels

The development of biofuels has been put forward as an appropriate alternative for energy production, taking into account the high costs associated with petroleum, eventual shortages of fossil fuels, and the need to protect natural resources and the environment. Biofuels will reduce contaminating vehicle emissions as they do not contain metallic particles or sulphur.

Palm oil, whether in its crude state, RBD, or in its fractionated state, can be used as a raw material for biofuel. In fact, oil palm is the most efficient oleaginous crop for this use.

Palm oil is also the crop which could produce the highest yields of ethanol from the cellulose and hemicellulose from the biomass produced during the agro-industrial process.



There are immense opportunities for Colombia today in the biofuels market. Its present level of palm oil production satisfies the local demand for traditional uses and can cover the requirements for producing biodiesel with the 5% mix permitted by Colombian law. Projections for future production levels not only guarantee the volume of raw material required for these purposes, taking into account the authorized increase in the mix percentage, but also show an excess which will need to be exported and used up in new products.



In Colombia, the capacity the industry has for the production of oil palm biodiesel, will allow it to meet the internal demand for the fuel with a 15% mix.

The efficiency of palm oil energy

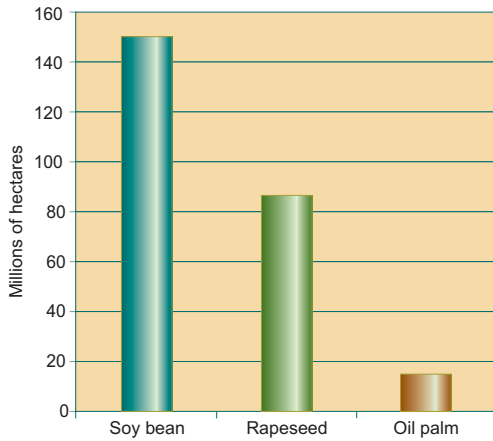
It is often argued that the energy generated by biofuels is less than the energy that goes into producing them. This does not apply to the oil palm process: the energy balance for oil palm biofuel production is easily the most efficient of all the oleaginous crops.

Energy balance for biofuel vegetable oils

Biofuel	Energy produced / energy required
Maize oil (Europe)	1.7 - 3.0
Rapeseed oil (Europe)	1.7
Sunflower-soybean-soya-rapeseed oil (Europe, US)	3.2 - 3.4
Castor oil (Brazil)	2 - 2.9
Palm oil (Brazil)	8.7
Palm oil (Colombia)	6.6

Source: Da Costa RE. et al., 2006.

There is no doubt that in terms of energy efficiency, the oil palm yields far more per unit of planted area than any other oleaginous crop.



Additional areas of land required for raw material for biofuel (with a 5% increase)

If a decision were taken today to substitute 5% of the world's consumption of diesel for biodiesel, the production of raw material to meet this need would have to increase by about 55 million tons. This would mean cultivating 85 million hectares of new land with a variety of oleaginous crops. In contrast, if only palm oil were used to meet this need, just 15 million hectares of land would be needed for new crops.

Making the most of oil palm subproducts to generate energy

The subproducts from the oil palm agro-industry can be used as natural fertilizers for the crop, but also for generating energy. This increases the energetic efficiency of the companies by about 75% and reduces their reliance on fossil fuels. Often, the energy that the palm oil mills generate is up to seven times the amount needed for their own production processes, enabling them to use the energy for other purposes within their zones of influence.

The empty fruit bunch can be used as fertilizer for the crop.







The oil palm is

WELLBEING AND PROGRESS

Palm oil people have work, education, health-care, housing and wellbeing. Most of all, they have a future.

The palm growing industry produces an immeasurable social impact. It changes the lives of people, families, communities and whole regions.

We are not just talking about what it means to people to have a stable job, a fixed wage, and dignified living and working conditions in a rural environment where 66% of people have an income lower than the minimum wage and where the per capita income is less than a third of that earned by people in the main towns.

We are talking about how much it means for farm labourers and country people to feel that there is hope again, to feel that they are part of a process of agricultural development which brings prosperity and progress to their region, to take control of their destiny and to have the security of knowing that their children will have greater opportunities in the future than they had themselves.

The social value is the oil palm industry's greatest asset in Colombia. It is also its legacy.

For this chapter, we used 24 palm growing municipalities as reference points. Their social indicators were compared with non-palm growing municipalities in their respective departments. The palm growing municipalities are: Acacias, Aguachica, Agustín Codazzi, Aracataca, Barranca de Upia, Becerril, Bosconia, Cabuyaro, Ciénaga, Cumaral, El Copey, El Retén, El Zulia, Marialabaja, Paratebuena, Puerto Wilches, San Alberto, San Carlos de Guaroa, San Martín (Cesar department), San Martín (Meta department), San Vicente de Chucurí, Tumaco, Villanueva, and Zona Bananera.

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Source of employment and job stability

I've been working for Palmas de Tumaco for 26 years. In the beginning, this town was quite a backward place, there wasn't any work, there wasn't any investment, no one ever came here....no one even so much as looked this way. Not even the government! But then the palm growing companies came and there's been a lot of progress, for us, our children and for the region.

Before the palm companies came, I worked with a company which took people out to big farms to plant cocoa. That was what people used to grow here, as well as rice, plantain and yucca.

I started here as a casual labourer, collecting the trash. Then I became a security guard. After that, I became a security supervisor. Here I've been trained in the field of security. The company has paid for all my courses in Bogota, and I put everything I learn directly into use here in the company.


I've really contributed to what Palmas de Tumaco is today. That makes me feel proud because it's the biggest company in the region.

My wife has five beautiful children: the eldest have already graduated from high school, and the others are 16, 15 and 14 years old: they're all studying.

When I retire, I want to work with the truck the company sold me some time ago. I already use it, and it's really helped me. I carry loads of fruit from the small palm farmers. With that, and my pension, I really feel that my future is secure.

Julio Delfin Manguera
Palmas de Tumaco employee (Tumaco, Nariño department)



A photograph of a male worker in a tan jacket and hat, smiling and carrying a large bundle of palm fruit on his shoulder. The worker is wearing a tan jacket with "CC GENPALMI" printed on it. The background is a lush green field of palm trees.

The most notable characteristics of the palm growing labor market are its dynamism and stability, due to the continuous productive cycle of the palm, from when its first fruits appear, and from then on, for the whole of its productive life.

Also, the commercial exploitation of the oil palm works within a business framework, and this brings a certain level of formality to the labor market. People who work in the sector receive social security, accident insurance, pensions, occupational health services etc., which companies are obliged to provide for their employees.

In palm growing municipalities, no other economic activity can rival palm growing in terms of employment generation. In these areas, the rates of unemployment are lower than the national average.

This contrasts very positively to the national labor market, which is characterized by informal employment, particularly in rural areas, where there is a lot of work-related instability, low quality jobs and unstable incomes.

Hiring the services of associated workers

Within the oil palm industry, you can find workers contracted in all sorts of ways, within the regulations of the Labor Code, but since the middle of the 1990s there's been a trend in some parts of the country towards contracting workers through cooperatives.

This involves workers coming together to offer their professional and specialized services and being hired by the oil palm companies through their organization. As such, the relationship between them is no longer that of employer-employee, but is more business-like, based on co-ordinated efforts to improve results.

We founded the cooperative 13 years ago with around 28 partners. The need to create it was ours because we had previously worked for contractors and we found that they ended up keeping most of the money that was ours. So one day we thought that we could work in a different way and out of that came the idea to form a cooperative. It was the first cooperative to exist here, and since then we've been offering our services to Unipalma, for harvesting and collecting the fruit. We've received a lot of training. We've learnt how to manage the business and it's made us think very differently from how we used to think when we were working for contractors. Now, the company we work for belongs to all of us. And if things are going well for the company, they're going well for all of us.

Arleiro Coro
Manager of the Nuevacom Cooperative (Cumaral, Meta department)

During the late 1990s, labor relations among the big oil palm growing companies, in particular in the Central and Northern Zones of Colombia, were affected by trade union action that led to a succession of salary rises, along with bonus payments and changes in labor conditions. This situation affected productivity and discipline at work.

As a result, labor costs grew to unsustainable levels, and brought some companies almost to the point of bankruptcy. The crisis was overcome because the various parties in the labor dispute understood one fundamental fact - the need to preserve jobs. The starting point on the road to recovery was getting rid of the costly agreed benefits. This was followed by finding more flexible ways of hiring staff, for example, by employing associated workers and workers from cooperatives. It also led to changes in the way labor unions perceived their role which was now focused not only on improving working conditions for their members, but also about securing jobs.



We understood that our mission is not to bite the hand that feeds us, but rather to support it. This includes keeping the company going, so that in turn it can sustain us too. Not only 200 union workers depend on the company, but also 600 workers linked to the company through cooperatives. There are also thousands of people who benefit indirectly from the company: the stores and businesses of Cumaral, Paratebueno and Villavicencio, and all the service sectors associated with the company and the communities where the workers live.

Jose Remigio Novoa
Union leader and worker at Unipalma de los Llanos, S.A. (Cumaral, Meta department)

Income

The oil palm agroindustry generates, for those people associated with the sector, income that is distributed in a more equal way, in relative terms, than in other rural productive activities.

A study carried out by the Center for Regional Coffee Growers and Business Studies (Crece) examined the socio-economic impact of the oil palm agro-industry in Colombia and found that an oil palm worker was likely to receive a salary that is 23 per cent higher than workers not involved in the agro-industry. The study also showed that palm oil workers did not need to have a secondary education to receive the same salary as others with a secondary education working in different agricultural and stock-breeding sectors.

Salaries within the oil palm sector are double the average minimum salary and salaries paid to contractors are 1.6 times higher than the minimum salary. This means that salaries for permanent jobs in the oil palm sector are three times higher than the average income in rural areas, and twice as high for contractors.

Before becoming an oil palm grower, I owned land that produced practically nothing. I rented the land out and someone else benefited by growing rice. Since I became part of this project, my life has changed. My income is much higher and I create jobs, which I didn't do before. I have two sons and a daughter, but my daughter has chosen another career. My two sons help me at the farm and they come and watch how things are done and in the future they might follow a career in the oil palm sector and become specialists or agronomists. So oil palm has given me the security that in the future I'll be able to give my children the education they need.

Juan Arroyo

Small oil palm grower (El Reten, Magdalena department)





I've been working in the oil palm sector for 15 years. When I first arrived here, to Puente Sogamoso, I can say that all I had were the clothes on my back. But since then I've managed to make enough to buy a house and I'm working to pay for my daughter to take technical courses.

Jose Antonio Hernandez

Worker at Palmas Bucarelia (Puerto Wilches, Santander department)

I started working at the company in 1986, as a directly employed worker. My first job was bringing in the harvest, then I worked in the Registration Department and now I'm working in the Department of Plantation Production and Maintenance. During these 19 years, I've managed to educate my three children, and to get dignified housing for my family.

Jose Remigio Novoa

Worker at Unipalma de los Llanos, S.A. (Cumaral, Meta department)

Oil palm has really changed my life. Because when you want to buy something, if you have a receipt that shows 6,000 kilos of fruit have been sold, you have no problems in getting credit. Also, every 15 to 20 days there is a harvest, so we cut the fruit and take it to the mill and within three days you know there'll be a check and with that you can cover all your household expenses.

Jose Ricardo Valencia Garces

Small oil palm grower (Tumaco, Nariño department)

I feel at peace, thanks to God. There's no more stress. You have to look at this job like a pension, which will produce money for the next twenty years.

Nevis Marina Guerreo Perez

Small oil palm grower (Aracataca, Magdalena department)





Housing

Housing is a major concern for anyone, and the oil palm sector is no exception.

To have your own home or to improve the one you are living in is a priority for people who receive regular income. This is always a topic of conversation amongst people who are involved in the oil palm agro-industry.

There are many oil palm companies that provide housing programs for their workers, which range from providing low interest loans, supporting projects for people to build their own houses, and supporting housing projects managed in partnership with local government.

As such, it is not surprising that the 2005 National Census and the latest "Quality of life" Survey carried out across the country show that most of the homes in the oil palm growing municipalities as included above are constructed from pre-fabricated materials such as bricks and stone. In many of these towns, core indicators relating to housing infrastructure have evolved more favorably than in non-palm growing municipalities within the same department.

It is also worth noting that in oil palm growing municipalities, the proportion of homes with access to electricity is similar to or higher than the national average. In many of these places, the same applies to the number of homes with access to water.

Access to education

The oil palm sector is proud of the impact it has in terms of greater educational opportunities for people involved in the agro-industry, along with improvements in educational indicators in traditional oil palm growing areas. These indicators refer to literacy rates (people over 5 years-old who can read and write), number of years of schooling, and the number of children attending school. According to the last Census, such indicators are higher among traditional palm growing municipalities than in other municipalities involved in other agricultural and stockbreeding activities.



The increase in the number of people with a primary and secondary education and the number of children aged between 6 and 10 years-old attending school in traditional palm growing areas in Colombia is noteworthy. Both these indicators show a favorable dynamic with regards to the education of younger generations in the oil palm growing regions of the country.

This is confirmed by the fact that important educational indicators in oil palm growing municipalities are similar or higher than the corresponding national indicators. Literacy rates are higher in many rural oil palm growing communities than the national rates. In addition, the proportion of people who have completed preschool and basic primary education in these localities is higher than the national average.

However, despite improvements made in recent years, the proportion of people with a secondary school education, in most of the oil palm growing municipalities, is lower than the national average. This could be due to the fact that the oil palm labor market attracts young people who can earn incomes that are not determined by the level of schooling they have.



Palm oil production activities also have a positive impact on the number of children attending school aged between 6 and 10 years-old and between 11 and 17-years old, which in almost all of the oil palm growing communities reaches levels close to those nationally. If this trend is maintained, it is anticipated that during the next few years, the number of children attending secondary school in oil palm growing municipalities will increase, as they have been doing at the pre-school and primary levels.

According to the study carried out by Crece, which compared families involved in the oil palm sector and those who were not, it was found that in the towns of Puerto Wilches and Tumaco all pre-school and primary age children from families who worked in the oil palm agro-industry attended school, while within families who did not work in the sector, only 67 per cent of children at pre-school age and 89 per cent of children at primary age went to school.

It is not surprising that in oil palm growing municipalities there are higher levels of school attendance and people spend on average more years at school for two reasons: palm growers value the acquisition of new skills and competencies, and in general the education of their children is not only seen as a priority but also as an essential part of their life goals.

Educational opportunities for adults



Today, cooperatives and social responsibility programs found in the oil palm sector all promote literacy programs, training, and the chance to attend night school both at primary and secondary levels. This allows adults working in the sector to improve their education, and knowledge in a range of subjects and skills. It is likely that in oil palm growing municipalities, these opportunities on offer have had an impact in reducing

the number of people with no education at all and have contributed to the steady increase in literacy rates in oil palm growing towns over the last decade.

The government's National Learning Service (SENA) program in labor skills, managed by the local Palm Oil Board, has had an important impact on education. The program defines, sets standards, evaluates and accredits knowledge and competency levels among sector workers. As a result, for the first time in the history of the oil palm sector, the knowledge, skills and expertise acquired by its workers in an empirical way, can be recognized through formal academic qualifications. Such recognition has brought greater self-respect to workers and the jobs they do and has motivated many of them to return to formal education, either to finish their primary and secondary schooling, take technical courses and or start a university degree.

Access to health services

A high proportion of people living in traditional oil palm growing municipalities contribute part of their earnings to the public health system known as the “Contributive Regime”, which is further evidence of the formal labor market that characterizes the oil palm agro-industry. In most of these municipalities, the proportion of people registered with the “Contributive Regime” is higher than the national equivalent. In contrast, in non-oil palm growing areas, most people are affiliated to the so-called “Subsidized Regime” and do not pay a contribution to the Health System.

Services that operated through the Contributive Regime didn't exist before. Today, at the local hospital, it's possible to access the services of health care providers. This has reduced the large number of people who once relied on subsidized health care. Now more people and their families working in the oil palm plantations have access to health services.

Elmer Amortegui
Manager at Palmera San Pablo Company
(San Pablo, Bolivar department)

In terms of the number of people affiliated to the country's social security health system in palm growing municipalities, there is not much difference between the oil palm growing population and the non-palm growing population. This suggests the behavior of one segment of the population has had a beneficial impact on the other.



More and more oil palm companies require associated working cooperatives to give evidence of affiliating their members to the social security health-care system. They hope, in this way, to ensure that the cooperatives, from which they hire staff, fulfil their obligations in this respect.

Many palm-growing towns have a notably high proportion of people who pay contributions to the national social security health-care service. This is a clear indicator of the formal working conditions which are related to the presence of the oil palm agro-industry.

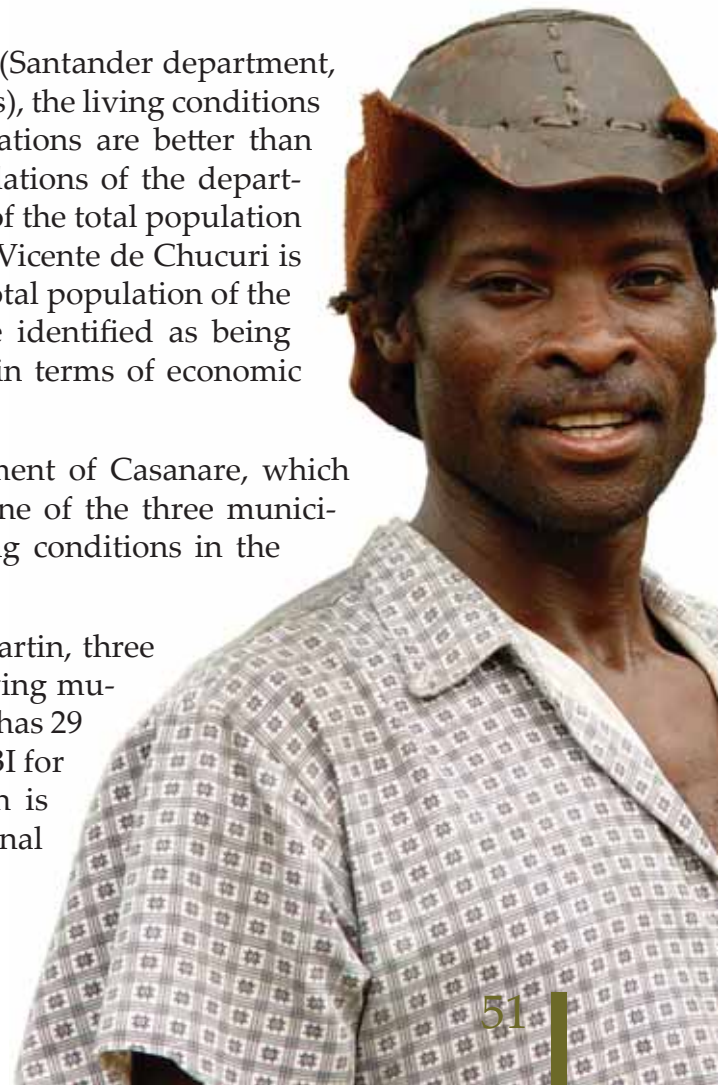


Developing towns

The "Unmet Basic Needs" social indicator (NBI in Spanish) refers to people who have inadequate housing, live in severely overcrowded homes, homes with inadequate access to services, households with many economic dependants, and homes where children of school age are not attending school. Two or more of these unmet basic needs is an indicator of poverty. The lower the NBI, the fewer unmet basic needs there are, which in turn means better living conditions.

The NBI indicators for the rural population of 16 of the 24 palm growing municipalities studied, show that this population has better living conditions than the rest of the rural population in their respective departments; furthermore, the NBI indicators for the total population of some oil palm growing municipalities compared with those of other towns in their respective departments, show surprising results:

- San Alberto, one of 25 municipalities that make up the department of Cesar, shows the best living conditions, in terms of the NBI of its total population.
- In the department of Cesar, six out of the twelve municipalities with the lowest levels of poverty are oil palm growing municipalities.
- In San Vicente de Chucuri (Santander department, which has 87 municipalities), the living conditions found among rural populations are better than the average of rural populations of the department as a whole. The NBI of the total population of the municipality of San Vicente de Chucuri is similar to the NBI for the total population of the department, which can be identified as being one of the most dynamic in terms of economic development nationally.
- Villanueva, in the department of Casanare, which has 19 municipalities, is one of the three municipalities with the best living conditions in the whole department.
- Acacias, Cumaral y San Martin, three of the seven oil palm growing municipalities in Meta, which has 29 municipalities, show an NBI for the total population which is higher than the total national NBI.



Women in the oil palm sector

For years in Colombia, it was believed that working in the oil palm sector was the exclusive domain of men. This belief was based around the difficult living conditions found in most of the palm growing regions and the intense physical work that is required when growing the oil palm crop and extracting its oil.

However, from the late 1980s onwards, the participation of women working in the sector has increased in all areas and levels in oil palm companies. There are also more women in charge of small oil palm productive units, making them an important productive force in the agro-industry as a whole.

This trend is partly due to oil palm companies reassessing the role of women in certain jobs, the quality of their work, and their level of commitment and responsibility.

I've been working in the company for eleven years and since I've been here there have been more and more opportunities for women. I think that the idea to include women in the company originally came from the company manager and when he saw the results, he realized we could be an asset to the company, and so we began opening up our own spaces. The company started to give woman operative jobs and work that required greater delicacy, like in the nurseries. Then the company started employing woman to collect fruits and help with the harvest, the most skillful women also take part in fruit cutting; they also gave women jobs in collecting fallen fruit, which was work that men didn't really want to do and something that woman did well. Now women are also involved in applying fertilizers and pesticides.

Sonia Rodriguez
Worker at Palmas Oleaginosas de Bucarelia
(Puerto Wilches, Santander department)

Better access to job opportunities for women in the oil palm sector is not just due to labor needs but mirrors the same dynamics that have led to more women working in the national labor market in general and in the productive sectors in recent years. Factors such as a reduction in family incomes, the increase in the number of households headed by women, the wish among many women to be financially independent, and of course, an increase in education levels among women have all played a role in increasing the number of women employed in the labor market.





I've been working here for four or five years. I worked in the nursery collecting pips and the empty fruit shells. The job I do now means that when the bunches fall and the fruit comes off, the person who collects the fruits does not need to collect the rubbish as well. I like my job, because it doesn't mean that I'm just left tied to the house, no sir! With my job I can spend my wages on what I want. Today, I've got a husband but you never know what might happen next, and if you've got work you can continue working hard and providing for your children and their futures.

Teresa Ibañez

Contract worker (Puente Sogamoso, Santander department)



I'm in charge of three hectares of oil palm. Mine is the best cooperative farm in the region. My husband died a year ago this October. Since then, in addition to my obligations as a housewife, I'm now both a mother and father and I'm also responsible for the farm. I've got three children: a daughter who is 20 years-old and studying business administration at university, a son who is 16 in 10th grade at school and the youngest boy who is 7 in his first year at primary school.

Before my husband died, the whole of what the farm produced was ours but now we have to spilt it 50-50 with my husband's family, because my husband planted the crop on his mother's land. So we get less income now, but it still helps us. It gave me the chance to move to Santa Marta where my children study. And yes, things have got better in economic terms. If I had more land, I would plant more oil palm because growing the crop not only benefits you and your family but others as well. I'm generating two stable jobs, not counting the extra jobs. And despite it being just three hectares, I've got two people working for me.

Yubi Rodriguez Rueda

Small oil palm grower (Tucurinca, Magdalena department)

When the now deceased Wilson Cabeza invited us, everyone accepted and started working in the oil palm sector, except us... my husband didn't want to. I felt it was a pity to get left behind. My husband decided that it was too expensive. But after he died I said to myself: "I'm going to plant oil palm and see how things go." I'm 85 years-old. I get up in the morning, make breakfast, sharpen my machete and go to the field to clean the ground around my palms. Then I put fertilizer into the soil, and go on cleaning and fertilizing. Sometimes, I stop in the middle of the field and say: "Oh Lord, help me with these crops, so that I can get on in life." And wherever there's a meeting, whether it's in Tumaco, or Cajapi, I'm the first to arrive.

Eslavia Cabeza

Small oil palm grower (Puerto Nidia, Tumaco)



The oil palm is

AN ALTERNATIVE FOR AGRARIAN DEVELOPMENT

25% of new land used for planting oil palms has been cultivated over the last eight years, as a result of agreements between small farmers associations and entrepreneurs or public and private organizations.

The purpose of these agreements, known as *strategic alliances*, is to encourage crop expansion within a carefully organized business framework.

83 strategic alliances set up before the year 2005 and covering the four oil palm-growing zones, have brought 4,586 farmers into the oil palm industry.

Farmers who are participating in strategic alliances (2005)

ZONE	No. of farmers	Men	Women	Total Area
Central	1,718	1,552	166	24,359
Northern	2,063	1,695	368	21,038
Western	587	465	122	4,750
Eastern	218	210	8	2,280
Total	4,586	3,922	664	52,427

The dynamic generated by these strategic alliances has had a profound effect on the lives of these farmers, their families, communities and regions. This is due to a variety of factors:

1. Going beyond the infrastructure, technology and finances, the most important aspect of these alliances is the people involved and the new relationships generated between them: relationships built on trust. In the first place, the trust is nourished by the con-

Sources:

- IICA, Fedepalma, Finagro (2006), "Estudio sobre caracterizaciones de las alianzas estrategicas en palma de aceite en Colombia. Informe final, IICA. Bogota, Colombia.
- Trabajos presentados a la Fundacion Mariano Ospina Perez, para el Premio "La palma de aceite, futuro para Colombia" (2006).

tracts signed by both parties, and later on, by the fulfilment of the commitments made by them, and by the feeling of shared achievement.

It's a really important exercise, because when you start trusting people and manage to establish successful agreements, you can carry out all sorts of tasks which generate mutual benefit built within an environment where people live and work harmoniously alongside each other.

Fabian Daza
Director, Fundalianza (Magdalena department)

2. The small farmers association is the mechanism through which it is possible for them to make strategic alliances, and this experience of working together in association, changes their relationship with their environment, by giving them a position from which they can truly participate in the world of production.

Working in partnership means being more important. For example, if I have a plot of land of three hectares, but the manager of the association, when he sits down to negotiate with another organization, talks about the two thousand hectares owned by the participating members of the alliance, and not just about my three hectares, that makes me count more.

Jorge Pacheco
Member of Asopalmar (Aracataca, Magdalena department)

3. The associative experience is founded on learning and education. This means growth, the possibility of acting on one's own initiative, being open to change, and adopting an entrepreneurial mentality. Small farmers of short cycle or subsistence crops become the entrepreneurs of the oil palm industry, always looking for ways of improving efficiency, productivity and the quality of the crop.





The experience of working in association has been really good for me, because in the past our region had never experienced an associative program for farmers. That's why we'd never made any progress on the technical side of our work, it's only now that these initiatives have begun. Now, things are planned and they happen. Training has helped us see that we can help nature produce more for us than it would do if left to its own devices... That's what it means to be competitive: I improve the quality of what I produce, and this in turns means that the quality of life improves for me, my family and lots of people around us.

Jose Francisco Morales
Cajapi Association (Tumaco, Nariño department)

Whether we're talking about oil palm-growing or not, I would tell any farmer to manage his plot of land or small farm as a business. That's the secret of success. This means doing things efficiently, lowering costs, in order to make a profit and to be able to live better.

Ovelis Tenorio
Asociacion Agromira (Tumaco, Nariño department)

4. The empowering of individuals, organizations and communities, which is related to what has been highlighted previously, is another hugely important effect of strategic alliances.

One of the most relevant achievements of setting up oil palm plantations is the empowering of the communities and the rebuilding of a social fabric, which means we can establish autonomous organizations and defend our common rights. This initiative, to become part of the solution, is brought about by the need to reconstruct our lives, to recuperate what we lost, to survive and leave an inheritance.

Jose Caceres, Manager, Campo Dos African Palm Producers Trade Association, Asogpados (Tibu, Norte de Santander department)



The capacity of groups of farmers to go out and achieve things for themselves has really grown. They have managed to persuade local authorities in their own towns to improve roads, to improve the infrastructure of the education and health services, and much more.

Fabian Daza
Director, Fundalianza (Magdalena department)

5. The social impact can also be seen in the income generated by the fruit, and what this represents in terms of better quality of life, consolidation of small production units, reactivation of the local economy and social stability.



The biggest achievement of these strategic alliances has been the social stability in the region, especially in the Zona Bananera. At the moment, people have economic stability, and food. The farmers have gone back to live in their houses, they have electricity, water, and some have started to make small improvements to the houses they were able to go back to... many of them were abandoned and they had to pay loans on them... It's also important to see how, during this process, we've gradually been able to improve the security situation we were dealing with: we had problems with drugs-related guerrilla activity, drug-trafficking, paramilitarism... With our strategic alliances, we've really been able to tackle our social breakdown, we've stopped it taking over our communities like wildfire as was happening before.

Nelson Vives Lacouture
Production Manager, C.I. El Roble, S.A.
(Zona Bananera, Magdalena department)





Gaining a workforce and taking over land and logistical systems that previously were used for illicit crops and putting it to work generating progress and development, within a legal institutional framework, has been and will continue to be one of our greatest achievements. The added value generated by the alliances is also important for its direct beneficiaries, and also for the south of Bolivar department. Land prices have gone up, there is a wider acceptance of entrepreneurial culture and a change to a more sustainable economy, where the family unit is favoured by the crop, that even though it is a late-yielding crop, will generate income so that our children can become great people people of the future, something which this country and region really needs.

Elmer Amortegui
Manager, San Pablo Palm Grower's Company,
south of Bolivar department

The social benefits can be seen not only in the income generated by the fruit, but also in the way that families become involved in the crop production, and, even more importantly, in the consolidation of the small production units. In this way we can contain the migration towards the cities, the land acquires a social and economic use and the farmers are given the chance to work at something which is profitable. Therefore, we contribute to building peace in the region.

Bismarck Preciado
Executive Director, Cordeagropaz (Tumaco, Nariño department)

Why use strategic alliances?

The associative model was an initiative taken up by the oil palm growers' guild in response to the industry's crisis in the 1990s, which sank innumerable communities into productive paralysis and despair. The national Government took up the proposal again and turned it into an instrument to promote policy which would modernize and reactivate the countryside.

The idea behind it is to increase the crop's competitiveness, generate employment and improve the social and economic conditions for small farmers. This happens through the promotion of projects designed to encourage the production of high value agricultural products, such as palm oil, and creating the kind of organization which can put these projects into action, guarantee small and medium farmers access to productive assets and commercialize their products.

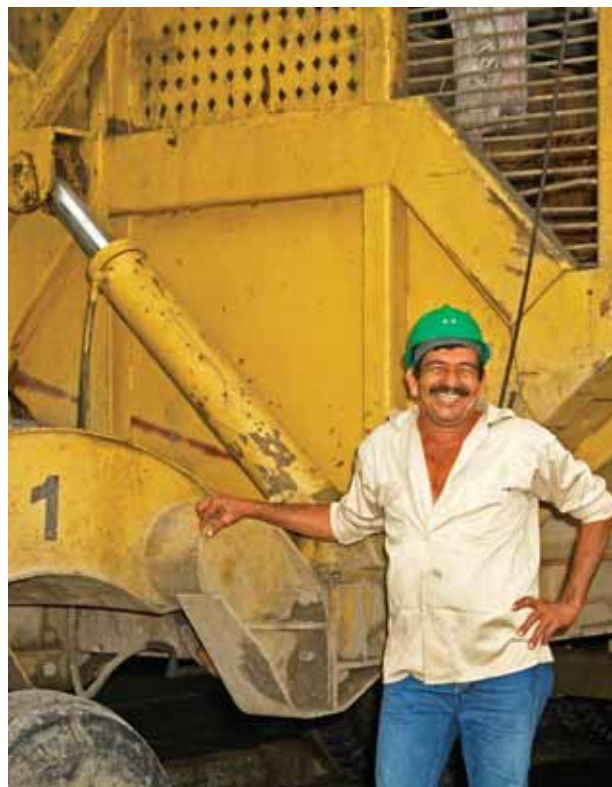


The oil palm has helped us a lot here, because we are failed banana farmers.

Exports were closed to us and we didn't have anyone to buy our products, and so we didn't have what we needed to keep the crop going. We tried other crops but we didn't get results. I'd thought of selling the land, but then the oil palm came along, and I don't want to sell anymore.

Henry Arrieta Bolaños
Small farmer (Guacamaya, Magdalena department)

Regions where transitory crops have not brought progress, in zones of armed conflict have been selected as prime locations to encourage the building of strategic alliances. Another scenario is in oil palm growing centers where the companies have plans to extend their areas of cultivation around their palm oil mills, or where associated working cooperatives are interested in making the most of their members' experience in the oil palm agro-industry, to encourage them to become involved in more structured entrepreneurial activities.



Evaluating the work of the alliances: growth, but not at any cost

A study on the characteristics of strategic alliances in the Colombian oil palm agro-industry was carried out by the Inter-American Institute for Cooperation on Agriculture (IICA) in 2006, sponsored by Finagro and Fedepalma. The study concluded that the alliances have fulfilled their commitment to enable small and medium-scale farmers to participate in the development of the agro-business and to increase their opportunities to achieve wellbeing for their families and progress for their communities.

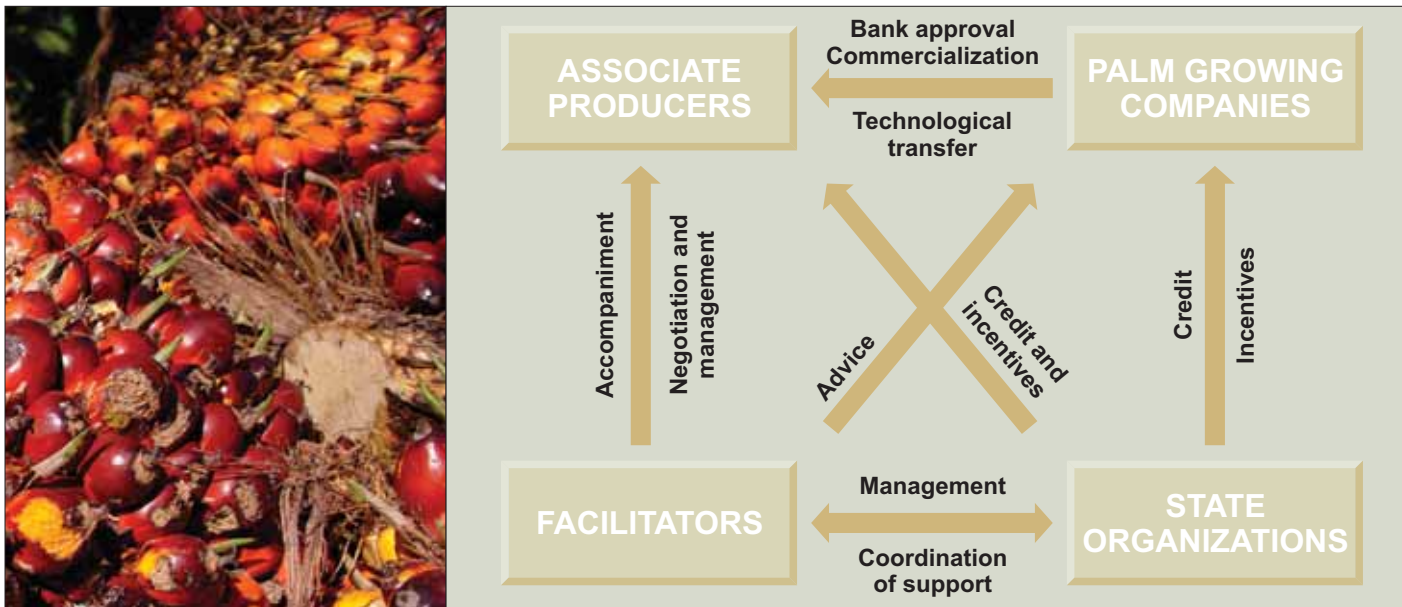
However, the study also highlighted the fact that the alliances are at risk when they fail to achieve levels of production and profits which guarantee their sustainability in the medium term. This has been due to selecting inappropriate land and deficiencies in adapting the land for the crops; to including farmers who have no knowledge of the oil palm and who are not given sufficient assistance or supervision or who are not given enough support in technical or business know-how; to difficulties in accessing productive resources (finance, technical assistance and materials); to funds from credit for production being used for basic living needs; to the high costs of coordinating with other parts of the production chain, and to severe restrictions in furnishing the farmers with infrastructure and social services.

In other words, the alliances work within the context of an integrated system of action, which gives participants the assurance of optimum conditions for the project to succeed, the transfer of knowledge, productivity, and the competitiveness of the operation. Consequently, there is a need to review policy related to critical aspects of these alliances, and to make sure efforts are focussed on developing palm-growing activity and achieving the right conditions for it to succeed.

How the alliances work

Different types of roles can be identified within the strategic alliances:

1. *State organizations*, which contribute credit and financial aid.
2. *Oil palm-growing companies*, which as operators, provide the materials needed for planting the crops, give technical and managerial assistance, ensure the purchase of the harvest and act as guarantors for financial assistance required by the farmers.
3. *Associated producers*, who become members of an alliance, implement technology supplied by the operators and are responsible for managing and paying off the credit, and delivering their harvests to the operator.
4. *Facilitators*, who advise the associative groups and cooperatives on how best to work together and give them socio-entrepreneurial support.



The experiences of the alliances

The oil palm alliances bring together a variety of experiences, in terms of how they started, how they are organized and the results they have had. However, they all have an important feature in common: they have been, for thousands of Colombians, the mechanism through which individuals have been able to become agricultural entrepreneurs. Four representative cases are presented here:

Marialabaja (Bolívar department)

In the 1970s, The Colombian Agrarian Reform Institute promoted the idea of creating irrigation districts in the country. Years later,

when there was a downward trend in planting transitory crops, such as rice, these 'districts' suffered huge economic and social destabilization.

In the 1990s the agricultural workers under the influence of the Marialabaja Irrigation District found themselves sinking into intolerable levels of marginalization, poverty and debt. A study sponsored by the Fund for Integral Rural Development (DRI) and the departmental government in 1998, put forward the oil palm as an alternative for agrarian development in the region. With assistance from the Hacienda Las Flores Group, it was confirmed that the condition of the soil was just right for this crop.

Here we went through the crisis in the agricultural and stockbreeding sector, and we were really in trouble, desperate, without access to credit because nobody could trust the farmers to pay it back. That was when we had a meeting at Sol Maria and they started to talk about the project. I went to the meeting on behalf of the farmers. When I finished talking, Mr. Murgas asked me if I wanted to plant oil palm. I said I'd never heard of it, but that I was willing to have a go, because what we needed was hope and work, work and more work... So he said 'Ok then, expect a team of people to visit your farm tomorrow, in the bit of land where you are planning on planting the crop. The team will analyze the soil and we'll take it from there,' And that's exactly what happened and it's still happening.

Sidulfo Ramos

The first farmer to plant oil palm in Marialabaja

The experience was met with such enthusiasm that an alliance between the Hacienda Las Flores Group and the District producers was set up in the shape of three associations, which later became one, Asopalma. Between 1999 and 2000 the first 533 hectares of oil palms were planted with funds provided by the DRI to the Bolivar departmental government. But a problem arose: Asoplama could not get credit approved for the unproductive period of the crop, and while it was applying for alternative sources of credit, the farmers had to make many sacrifices to keep up their land.

The difficulties were overcome and today, the experience of Marialabaja is used nationally and internationally as an example of the way in which strategic alliances can succeed. Among its main achievements, the following should be highlighted:

1. Excellent yields from 2002 onwards, with levels of production unprecedented in the country.
2. Impeccable financial management.
3. The appropriate assimilation of the oil palm crop into the Marialabaja farming culture.



4. 126 families participate in the project, thereby generating 76 direct, permanent jobs, and 125.000 daily wages annually. The production value of the palm fruit generated by the Asopalma members in 2006, was estimated to be 2,600 million pesos, funds which stimulated the local economy.
5. Today, Asopalma is a solid organization, setting an example for other associations which have come together with a view to planting another 5,000 hectares in the region.



Sabana de Torres and Puerto Wilches (Santander department)

150 workers from the Magdalena Medio, organized into four cooperatives for associated working, suppliers of agricultural services specialized in oil palm (Asopalma, Coorapalma, Siglo XXI and Asodepal) bought 2,256 hectares of farmland on which 1,500 hectares of oil palm are currently being grown.

This project has been developed since 2001 on the El Palmar Estate (which has land in both Sabana de Torres and Puerto Wilches municipalities), in alliance with Indupalma and the financial sector. In the words of the directors of one of the participating cooperatives, 'This has been the result of the systematic hard work of a whole team of people focussed on building relationships of trust between businesspeople, workers, and financiers, with the clear objective of showing the country that it is possible to set up effective alliances to create productivity, peace and prosperity.'

Megabanco loaned funds to farmers to purchase land, cultivate and maintain the crops, and Finagro granted incentives for rural capitalization. Indupalma promised to purchase the total produce from Palmar for 28 years, and gives technical assistance and logistical backup. The associates, for their part, provide the workforce for preparing the land, and planting the palms, and today deal with the agronomical requirements of the crop as contractors of their own project, and enjoy all the benefits of the job.

In addition to all the social benefits in terms of income, demand for jobs and services, the project also symbolizes a contribution to the development of oil palm production through entrepreneurial vision. Its notable feature lies in the fact that the associates' living costs are guaranteed for the period during which the operational and financing costs are being paid off (twelve years), ensuring sustainable development and the possibility of growth for El Palmar.

Tumaco (Nariño)

Cordeagropaz, the Tumaco Agrobusiness Development Corporation, promotes oil palm strategic alliance projects in the region. Its creation was linked to the situation Tumaco was going through at the end of the 1990s, when traditional agricultural activities were in crisis, bringing lower incomes, unemployment, exodus towards the towns and deteriorating living conditions for people who lived in the countryside. This situation, together with the pressure in the Putumayo to abolish illicit crops, facilitated the introduction of illicit crops into the Tumaco region, the development of drug-trafficking and the rise in the presence of illegal armed groups on the coast and at the foot of the mountains of Nariño.

Faced with this critical situation, the municipal authorities and the local oil palm growing organizations decided it was necessary to promote agribusiness development projects, particularly for oil palm production, and they drew up a contract through the Banco Agrario to finance 4,000 hectares of oil palm cultivation and successfully applied to the Peace Investment Fund (Part of the Plan Colombia) for a 40% contribution to the project.

In 1999 Cordeagropaz was born out of a strategic alliance for a private non-profit production project between the business sector, the public sector, the financial sector and peasant organizations, with mixed participation. The many faceted results of the exercise, over the course of seven years, include the investment of 15,000 million pesos into the region, the generation of employment and income, the building of infrastructure, the implementation of technology to manage the crop, minimizing the expansion of illicit crops, the renewal of the social fabric, the strengthening of the productivity of family units and the changing the mentality of the farmers, who previously thought of short term benefits of their work, and now began to think about medium and long term effects of their activities.

These programs are designed to last for 30 years, which is equivalent to the productive life of an oil palm tree. But, apart from the oil palm, we would like to see the organizational development processes which are assimilated also producing processes of change and improvement in basic infrastructure within communities, improvement in healthcare, local democracy, encouraging higher levels of participation, learning how to live together peacefully... We would like to see the organization of a productive activity, the oil palm, promoting social, economic and political progress in these communities.

Jose Rodrigo Garcia
Business Coordinator, Cordeagropaz



San Martin (south of Cesar department)

The communities who lived around Aguasblancas in San Martin used to earn their living from rice, maize, sorghum, cotton and from looking after other people's cattle. But inefficient production processes and the violence which affected the region denied them the possibility of expanding their work and improving their living conditions.

In the year 2000, The Magdalena Medio Program for Development and Peace, put forward a proposal to the owners of plots of land in Candelia, Holanda, La Carolina and Caño Seco to work in association and cultivate 500 hectares of oil palm with technical support. The proposal was crystallized in 2001, and the San Martin Palm Growers association was founded with 50 associates.

They made use of the incentives provided by rural capitalization to get training and to prepare the land for the crop. They applied for credit to purchase the materials they needed. Palmas de Cesar S.A. provided them with technical assistance and guaranteed purchase of the fruit harvested on their plantations.

Asopalmar generates work for its associates and 400 daily wages each month for people who live in the region. It has also set up the Alameda glove factory, offers work experience programs for students from the La Curva Agricultural School, and is planning on expanding its membership by 50.

The project has had a profound impact on the lives of its beneficiaries, giving them confidence and hope. One of them, Dagoberto Contreras, puts it this way:

Giving importance to the role of farmers in Colombia, is a true gesture of peace. We thank God for Asopalmar. Today I have my own plot of land, and my own oil palm trees. My family and my life... You can't imagine how much everything has improved.





The oil palm is

ENVIRONMENTAL SUSTAINABILITY

The Colombian palm growing sector is a pioneering force in the search for ways to achieve environmental sustainability within the industry. It has become an example for other sectors nationally in the agricultural and fishing industries and even for other palm growing organizations throughout the world.

Conservation of the environment and biodiversity

Today the oil palm agro-industry in Colombia is inseparably linked to the protection of the environment, to renewable natural resources and to the preservation of biodiversity. In this respect, over the last decade, Fedepalma's position has been very clear about preserving key areas, such as primary forests, lowland and gallery forests, and wetlands, and about using land other than natural forests or areas of strategic national importance for environmental sustainability for the expansion of cropland.

In the case of Colombia, the expansion of the crop does not affect primary or even secondary tropical forests, because of the large amount of land available for agricultural use. Perhaps the only exception, and this is an initiative which is not supported by Fedepalma, is that of those investors who have recently started to get involved in oleaginous crops in the Uraba Gulf zone, in Choco, in the northwest of the country, and whose undertakings are being investigated by the authorities to ensure that they are acting within the law.

Jens Mesa Dishington
Executive President of Fedepalma

Only a few Colombian plantations were associated with the transformation of natural ecosystems, and this happened in the 1960s, when the oil palm first started to be used for commercial purposes in this country. In 85% of cases, the present oil palm crops are using land which was previously used for short cycle





Strips of protective woodland around rivers and streams in the plantations are important for water regulation, to maintain biological corridors and the stability of the borders around these water features.

crops and extensive cattle farming. The substitution for oil palm was very positive, given that palm plantations provide a more favourable environment for establishing and developing diverse biological communities than the agricultural activities that preceded it.

Oil palm plantations are ecological by definition. They are efficient photosynthesizers, extracting carbon from the atmosphere and transferring it to the soil in large quantities through the production of biomass. In this way, as in any other forested area, they have the ability to effectively contribute to the control of gases which cause global climate change.

Hector Daniel Ramos
Agricultural technician, Aceites Manuelita S.A.
(San Carlos Guaroa, Meta department)

Improving agronomic processes

Soil and water management, as well as that of nutrients, diseases and plagues, by Colombian oil palm growers, is based on agricultural practices which are friendly to the environment and to renewable natural resources. Among other activities, we should note the following:

- The effective use of cover crops, particularly legume cover crops, to protect the soil, maintain humidity levels and reduce erosion.
- The planting of certain vegetable species to attract natural predators of insects which damage the palm, and to establish a system of biological control.
- The selective growing of other vegetable species within the parameters of the plantation which strengthens the agro-ecosystem.





- The use of subproducts of the oil palm agro-industry as natural fertilizers: pruned leaves, palm trunks, empty fruit bunches, which result from harvesting, and fibre, ash and effluents resulting from the oil extraction process.
- The diagnosis of the nutritional condition of the plantations through analysis of soil and leaves, which allow farmers to plan more suitable fertilization systems.

These practices favour the reduction in the use of agrochemicals, with all the benefits this brings for the environment and human health.

The biological control practiced by the palm growers is in direct contrast to the use of chemical pesticides used in other agricultural activities.

Dalber Zambrano
Technical Assistance Officer, C.I Tequendama
(Aracataca, Magdalena department)



*Clean Development Mechanism (MDL) Umbrella Project:
an alternative for better environmental management*

32 Colombian companies with palm oil mills are part of the MDL Umbrella Project backed by Fedepalma, which consists in capturing, modifying and making use of methane gas released from residual water treatment plants.

Methane, as a greenhouse gas and a contributor to global climate change, is able to emit about 21 times more heat than carbon dioxide. Therein lies the importance of being able to modify it and make use of it to generate electricity or cogenerate and sell the excess.

This is a pioneering project of its kind in the world and will place Colombia in a position to offer its services to reduce greenhouse gases, potentially gaining more than 500.000 Certificates of Emission Reductions (CER*) per year, from the first year of its operation.

The MDL Umbrella Project demonstrates that the oil palm growing sector in Colombia is making progress in consolidating its position in respect of the environment, that its activities are environmentally friendly, and that it is making significant contributions to sustainable development in the country.

Miguel Angel Mazorra
Director of the Environment Program, Fedepalma

* The Kyoto Protocol (1997) commits developed countries to reducing their carbon dioxide emissions by 5.2 % by the year 2012, based on levels registered in 1990, and allows them the possibility of doing this by receiving CER certificates generated in developing countries through projects designed to reduce emissions or the planting of woodland.





Environmental management of palm oil mills

In terms of the environment, the palm oil mills have three points of action: the management of the fruit's subproducts, the management of residual waters, and the management of emissions into the atmosphere.

The action taken on each of these fronts, shows very positive outcomes, to the point where leading companies in the sector today are considering the challenge of reaching 'zero waste', 'zero dumping' and 'zero emissions' levels. To succeed, this will require recycling and the use of all the subproducts generated in the production process. The advances in this area are impressive:

- Ten years ago, water pollution was the greatest environmental problem in the oil palm sector, due to the high levels of dumping organic waste into the rivers, lakes and streams. In 1992, only 6% of the companies had waste treatment systems. Nowadays, 100% of the palm oil mills have the infrastructure to enable them to remove more than 99% of organic waste, a level which exceeds the limits required by today's environmental regulations in Colombia.
- Almost half of the palm oil mills make use of the nutritional value of the treated effluents, using them for irrigation of the crops. There are companies which reuse the treated water as a cooling agent which optimizes the process of removal of the effluents.



- The atmospheric pollution generated by the boilers at the palm oil mills has been dramatically reduced. More than 95% of the companies have installed cyclone separators to control emissions (only for particulate matter). Furthermore, there are no oil palm companies involved in burning land to clear it for planting oil palm – this is a practice which belongs to the past. At present, apart from fulfilling the requirements for atmospheric emissions, efforts are also being directed at eliminating these emissions, by optimizing the combustion process in the boilers.
- It is general practice to use the subproducts as fertilizers in the plantations or as combustion fuel for the boilers, as explained on previous pages.

A positive outcome

With regards to the environment, the progress made by the sector over the last decade has been considerable. The most important feature is the change in mentality of the palm-growing companies, many of which now see environmental issues as a way to strengthen their competitive advantage.

The palm-growers environmental initiatives have been recognized and valued by environmental authorities in Colombia. They were also the object of a study, requested by Fedepalma, carried out by independent consultants, Manuel Rodriguez Becerra and Bart Van Hoof, whose conclusions were laid out in their book *The environmental performance of the Colombian palm-growing industry* (2004).

This shows that in spite of the varying responses of individual palm-growing companies to environmental issues, the new forms of agronomic management designed to control and prevent disease are beneficial for biodiversity and can clearly be seen to have positive results. The report also applauds the environmental initiatives of the palm oil mills, in accelerating the setting up of





treatment plants for residual waters and adopting plans for environmental management approved by the authorities. Looking forwards, Rodriguez' and Van Hoof's work highlights the opportunity the sector has been presented with to ensure that its activities become thoroughly environmentally friendly.

Green markets

Consumer demand, which today requires consumer goods to be produced and commercialized in ways which are fair to communities and not damaging to the environment, has been identified by some palm-growers as an opportunity to strengthen its competitive edge.

In Colombia, companies such as C.I. Daabon S.A. and C.I. El Roble, which operate in the Northern Zone, have dedicated thousands of hectares to the cultivation of oil palm crop using organic practices. They have completely eliminated the use of agrochemicals and they have obtained certificates to commercialize their products on the international market.

This organically produced oil is sold on the international market at a price which is 20% higher than that paid for traditionally produced palm oil.







The oil palm is

COMMITMENT

Fedepalma and its affiliates are committed to sustainable development. This presupposes policies, management and business operations which ensure the sector's productivity, protect the environment and bring social benefits.

Commitment to the sector's productivity

Fedepalma defines itself as a space for discussion and exchange of ideas which generates the possibility for Colombian palm-growers to act collectively and be represented by a unified voice.

In this capacity, Fedepalma brings together, represents, defends and advises the farmers and millers in a variety of arenas related to their activities. It promotes initiatives for the growth and development of the agro-industry in Colombia. The palm growers affiliated to Fedepalma represent 45% of the planted area in Colombia and 78% of the country's total extraction capacity.

Most of the activities undertaken by the organized oil palm growers are directed at the sector as a whole. And the solid institutional framework within which all this takes place, comprised of organizations dedicated to investigation, commercialization, the promoting and financing of agro-industrial projects – has contributed decisively to promoting the efficiency, productivity and the competitiveness of the sector.

Other organizations which act in the interests of the oil palm agro-industry

Corporacion Centro de Investigaciones en Palma de Aceite, Cenipalma. Set up in 1990 by Fedepalma, responsible for the investigation and transfer of technology within the palm growing sector.

Comercializadora Internacional, C.I. Acepalma S.A. Set up in 1991 with the support of Fedepalma and with contributions from its partners, collects and exports oil palm products, sells materials to the sector and reports on the behaviour of the international oils and fats markets.



Fondo de Fomento Palmero, FFP. Fund Account set up by government law in 1994, funded by financial contributions paid by all the palm companies. It finances programs of general interest for the development of the oil palm industry, and is administrated by Fedepalma.

Fondo de Estabilizacion de Precios para el Palmiste, el Aceite de Palma y sus Fracciones, FEP. Began operating in 1998 as a financial mechanism funded by contributions from the oil palm sector. Its purpose is to stabilize crude palm oil and palm kernel oil farmers' incomes.

Promotora de Proyectos Agroindustriales de Palma de Aceite, Propalma, S.A. Set up in 2000 with the support of Fedepalma, Coinvertir, Proexport-Colombia and several palm growing companies, connects groups that are interested in promoting profitable companies which in turn benefits the general interests of the palm growing sector.

Scientific and technological development

Through Cenipalma, the industry generates, adapts and transfers technology related to all aspects of cultivating oil palm (soils, water, physiology, plant health, integral pest management, biological control, genetic improvement) both within its agro-industrial processes and the use of its products.

Studies on Cenipalma's impact over its years of action in this field highlight the considerable technical progress made in the sector, the clearest achievement being the increase in the fruit yields and the rate of oil extraction. These productivity increases lead to increased profits for the manufacturers. It has been established that the cost/benefit ratio of the investigation carried out between 1991 and 2005 by the palm growers has been very positive. For each peso invested in investigative activities, 3.4 pesos have been returned to the sector.

Over and above the profits made by the industry, the work of Cenipalma also implies a commitment to the scientific and technical development of the sector and of the country. The Center forms part of a national system of science and technology, and Cenipalma's field of expertise is knowledge: knowledge that it generates, knowledge that it transfers, knowledge that helps to solve problems and that develops skills and opens new doors, knowledge that is turned into collective benefits, and social value.





Training and promoting entrepreneurship

Training people has been identified as an important way of achieving greater productivity and competitiveness within the sector.

Training is usually presented in terms of recognition of skills and abilities of the personnel, and the time spent on training programs – which generally provides a break from daily activities – is appreciated as an opportunity for personal growth.

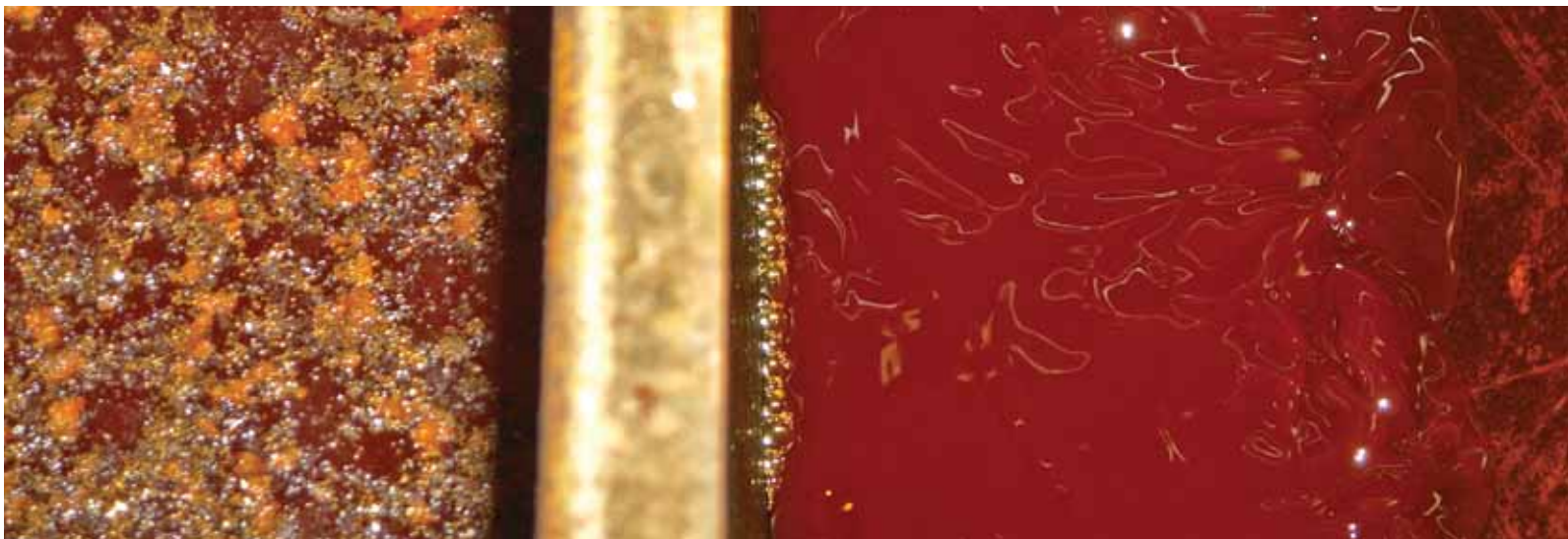
Alvaro Campo
Director of Training and Business Development, Fedepalma

In this field, it's worth highlighting the following achievements:

- The possibility of workers gaining formal qualifications, designed by the National Learning Service (SENA) and Fedepalma, in job competencies, offered in five areas: Planting, Crop Care, Harvesting, Plantation Supervision, Extraction of Palm Oil and Palm Kernel Oil.
- The incorporation of the same qualifications into the curriculum offered to 10th and 11th grade students in schools near plantations in the departments of Santander, Cesar and Meta. In this way the students acquire job competencies specific to working in the oil palm industry, on top of the academic and

citizenship competencies students are required to achieve at high school. They can then have access to job opportunities if they do not continue on to college or university.

- The possibility of carrying out postgraduate studies in industrial perennial crops, with an emphasis on the oil palm industry. This is the first formal postgraduate program in the subject, and is offered by the Agronomy Faculty at the Colombian National University, in partnership with regional universities.
- The transmission of the Fedepalma radio program 'Palm Growers in Action', which has been on air weekly since 2004, and is received in 30 palm growing towns, through local radio stations. It addresses small and medium-scale farmers and other palm workers. Its aim is to provide Colombians interested in working in the oil palm industry with a learning tool, and to strengthen the palm growing culture between people who are already involved in the agro-industry in different regions of the country.
- The organization of workshops and continuing education courses on a variety of aspects of the agro-industry, cooperative organizations and the development of production projects for associated working cooperatives. The participants are drawn from workers, small producers, students and even local public officials.
- The organization of seminars on business development, leadership, coaching and social responsibility of businesses, on administrative and auditing processes for plantations and on tax incentives and benefits. These are aimed at management level employees and through them, they benefit the companies as a whole.



Commitment to the environment

As we have already seen in previous sections of this book, the oil palm growing sector has taken on the challenge of incorporating environmental issues into the very heart of its business. To enable this to happen, collaborative work between Fedepalma and other official organizations responsible for these issues has been decisive, gradually achieving environmentally friendly practices within the agro-industry. This was the spirit with which the Clean Production Agreement was signed in 1997, by Fedepalma, oil palm companies with palm oil mills, the Ministry of Agriculture and the Environment, and the Autonomous Regional Corporations from the departments of Cesar, Magdalena, Nariño, Orinoquia and Santander.



Fedepalma's Environmental Programme implements the guidelines set out in the Clean Production Agreement, and is a point of contact with the regional authorities on environmental issues, and addresses the environmental requirements of the oil palm-growing companies.

The Agreement sets out plans for the adoption of clean technology which is environmentally safe, aimed at reducing pollution, reducing risks for the atmosphere and the population, and protecting natural resources, within a context of competitiveness for the sector.

This Agreement has therefore been used as a point of reference for environmental issues within the sector, in terms of the use and management of renewable natural resources, investigation and transfer of technology, and plans for environmental management.

To support this, Fedepalma promoted the publication and distribution of the *Environmental Guide for the Palm Oil Agroindustry Subsector* (2002), a pioneering work in the Colombian agricultural and stockbreeding sector. It was approved by the Ministry of the Environment as an instrument of self-management and self-regulation, as it describes the processes, evaluates impacts and defines actions which need to be taken and avoided on environmental issues. It is not just an indispensable reference book for palm growing companies, but also a model on which to base similar works for organizations involved in other manufacturing activities.



Commitment to the people

Human Health and Nutrition

This is one of the most recent areas of investigation carried out by Cenipalma.

The Human Health and Nutrition Program was designed and implemented in response to people receiving incorrect information about the effects of oil and fats consumption, the need to have reliable information at hand and the decision of oil palm growers to contribute to improving food and nutrition problems detected in the Colombian population.

This program has been in operation since 1995 and has turned Cenipalma into an important point of reference for sectors of the society interested in the issue, particularly health professionals, and governmental bodies responsible for local and national food programs.

Occupational health

With a view to reducing accident rates and encouraging accident prevention within the oil palm companies, Fedepalma and the Social Security Institute sponsored a study which provided information on the occupational health situation in more than 150 oil palm companies.

Building on this experience, Fedepalma supervised the production of the *Occupational Health Manual for the Oil Palm Agro Industry*, written by Dr. Leonardo Garcia Rojas.

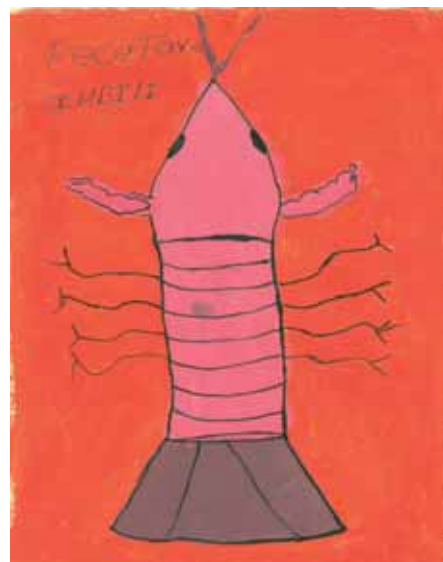
The work is divided into two volumes: the first is dedicated to the cultivation of the crop and the second to the palm oil mills. Both outline the health, hygiene and industrial safety measures that the oil palm companies need to implement at each stage of production. It is a detailed guide which contributes decisively to the wellbeing of the workers in the sector, both because of the broad range of themes it covers and the detail it provides on each one.

Dialogues Between the Palm Growing Regions: Fedepalma's cultural program

Inaugurated in 2002, this program encourages cultural exchange between the palm growing communities promoting artistic, scientific, educational and communicative events based around the daily lives of the communities. By doing this, it aims to strengthen individuals' and communities' sense of belonging, identity, dignity and encourage them to take pride in being part of an agro-industry which is making history and shaping the future.



Drawings done in the 'Food and cooking, landscape and society' workshop in Imbili, Nariño department, with the support of Palmas de Tumaco. 25 women cooked seven traditional dishes, covered the table with plantain leaves and flowers, and then all had dinner together... Over the next few days, they exhibited their recipes, explained how to make the food, and where the ingredients come from. The participants then drew the ingredients and places where they came from, and wrote the recipes.





Among the 'Rutas de la Palma' projects, is that of using foam rollers, applying the age-old pre-Columbian technique for designing repetitive motifs on house-fronts and public walls. This has brought about the aesthetic recovery of public space in many oil palm growing towns in the Zona Bananera, Tumaco, the Eastern Plains and in the Magdalena Medio.

Salon de la Palma. This began in 2002, and puts on exhibitions of Colombian art and work which comes out of the workshops on oil palm related themes, inspired by the world which unfolds around the oil palm, the social relationships it generates, the science which supports the crops, the natural space in which it thrives, the agro-industrial activities it brings together and all the customs which have taken hold in the communities which live alongside it.

Rutas de la Palma. This program organizes workshops which give people the opportunity to watch the workers or other members of the oil palm communities and their daily activities, and invites them to talk about them or suggest ways of improving them.



Commitment to the production of sustainable palm oil

This is the commitment that has been fully embraced by Fedepalma and the other members of the Roundtable on Sustainable Palm Oil (RSPO).

It is an international initiative promoted by manufacturers, industrial bodies, commercial organizations, consumers, NGOs and other interested parties involved in the oil palm agro-industry in different parts of the world.

The RSPO members see the concept of sustainable development as the guiding principle in managing the oil palm business and consider it necessary to crystallize the concept through good practice in productivity, and social and environmental action. For this purpose, the RSPO has adopted a code of practice designed to encourage the production of sustainable palm oil, which can be referred to on the following pages.

Fedepalma endorses to this and calls on Colombian palm growers to put them into practice.

Principles and Criteria for Sustainable Palm Oil Production

Principle 1: Commitment to transparency

Criterion:

- 1.1 Oil palm growers and millers provide adequate information to other stakeholders on environmental, social and legal issues relevant to RSPO Criteria, in appropriate languages and forms to allow for effective participation in decision making.
- 1.2 Management documents are publicly available, except where this is prevented by commercial confidentiality or where disclosure of information would result in negative environmental or social outcomes.

Principle 2: Compliance with applicable laws and regulations

Criterion:

- 2.1 There is compliance with all applicable local, national and ratified international laws and regulations.
- 2.2 The right to use the land can be demonstrated, and is not legitimately contested by local communities with demonstrable rights.
- 2.3 Use of the land for oil palm does not diminish the legal rights, or customary rights, of other users, without their free, prior and informed consent.

Principle 3: Commitment to long-term economic and financial viability

Criterion:

- 3.1 Criterion 3.1 There is an implemented management plan that aims to achieve long-term economic and financial viability.



Principle 4: Use of appropriate best practices by growers and millers

Criterion:

- 4.1 Operating procedures are appropriately documented and consistently implemented and monitored.
- 4.2 Practices maintain soil fertility at, or where possible improve soil fertility to, a level that ensures optimal and sustained yield.
- 4.3 Practices minimize and control erosion and degradation of soils.
- 4.4 Practices maintain the quality and availability of surface and ground water.
- 4.5 Pests, diseases, weeds and invasive introduced species are effectively managed using appropriate Integrated Pest Management (IPM) techniques.
- 4.6 Agrochemicals are used in a way that does not endanger health or the environment. There is no prophylactic use, and where agrochemicals are used that are categorised as World Health Organisation Type 1A or 1B, or are listed by the Stockholm or Rotterdam Conventions, growers are actively seeking to identify alternatives, and this is documented.
- 4.7 An occupational health and safety plan is documented, effectively communicated and implemented.
- 4.8 All staff, workers, smallholders and contractors are appropriately trained.

Principle 5: Environmental responsibility and conservation of natural resources and biodiversity

Criterion:

- 5.1 Aspects of plantation and mill management that have environmental impacts are identified, and plans to mitigate the negative impacts and promote the positive ones are made, implemented and monitored, to demonstrate continuous improvement.


- 5.2 The status of rare, threatened or endangered species and high conservation value habitats, if any, that exist in the plantation or that could be affected by plantation or mill management, shall be identified and their conservation taken into account in management plans and operations.
- 5.3 Waste is reduced, recycled, re-used and disposed of in an environmentally and socially responsible manner.
- 5.4 Efficiency of energy use and use of renewable energy is maximized.
- 5.5 Use of fire for waste disposal and for preparing land for replanting is avoided except in specific situations, as identified in the ASEAN guidelines or other regional best practice.
- 5.6 Plans to reduce pollution and emissions, including greenhouse gases, are developed, implemented and monitored.

Principle 6: Responsible consideration of employees and of individuals and communities affected by growers and mills

Criterion:

- 6.1 Aspects of plantation and mill management that have social impacts are identified in a participatory way, and plans to mitigate the negative impacts and promote the positive ones are made, implemented and monitored, to demonstrate continuous improvement.
- 6.2 There are open and transparent methods for communication and consultation between growers and/or millers, local communities and other affected or interested parties.
- 6.3 There is a mutually agreed and documented system for dealing with complaints and grievances, which is implemented and accepted by all parties.
- 6.4 Any negotiations concerning compensation for loss of legal or customary rights are dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions.
- 6.5 Pay and conditions for employees and for employees of contractors always meet at least legal or industry minimum standards and are sufficient to meet basic needs of personnel and to provide some discretionary income.



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- 6.6 The employer respects the right of all personnel to form and join trade unions of their choice and to bargain collectively. Where the right to freedom of association and collective bargaining are restricted under law, the employer facilitates parallel means of independent and free association and bargaining for all such personnel.
 - 6.7 Child labour is not used. Children are not exposed to hazardous working conditions. Work by children is acceptable on family farms, under adult supervision, and when not interfering with education programmes.
 - 6.8 The employer shall not engage in or support discrimination based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, or age.
 - 6.9 A policy to prevent sexual harassment and all other forms of violence against women and to protect their reproductive rights is developed and applied.
 - 6.10 Growers and mills deal fairly and transparently with smallholders and other local businesses.
 - 6.11 Growers and millers contribute to local sustainable development wherever appropriate.

Principle 7: Responsible development of new plantings

Criterion:

- 7.1 A comprehensive and participatory independent social and environmental impact assessment is undertaken prior to establishing new plantings or operations, or expanding existing ones, and the results incorporated into planning, management and operations.
- 7.2 Soil surveys and topographic information are used for site planning in the establishment of new plantings, and the results are incorporated into plans and operations.
- 7.3 New plantings since November 2005 (which is the expected date of adoption of these criteria by the RSPO membership), have not replaced primary forest or any area containing one or more High Conservation Values.
- 7.4 Extensive planting on steep terrain, and/or on marginal and fragile soils, is avoided.

- 7.5 No new plantings are established on local peoples' land without their free, prior and informed consent, and are dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions.
- 7.6 Local people are compensated for any agreed land acquisitions and relinquishment of rights, subject to their free, prior and informed consent and negotiated agreements.
- 7.7 Use of fire in the preparation of new plantings is avoided other than in specific situations, as identified in the ASEAN guidelines or other regional best practice.

Principle 8: Commitment to continuous improvement in key areas of activity

Criterion:

- 8.1 Growers and millers regularly monitor and review their activities and develop and implement action plans that allow demonstrable continuous improvement in key operations.





