



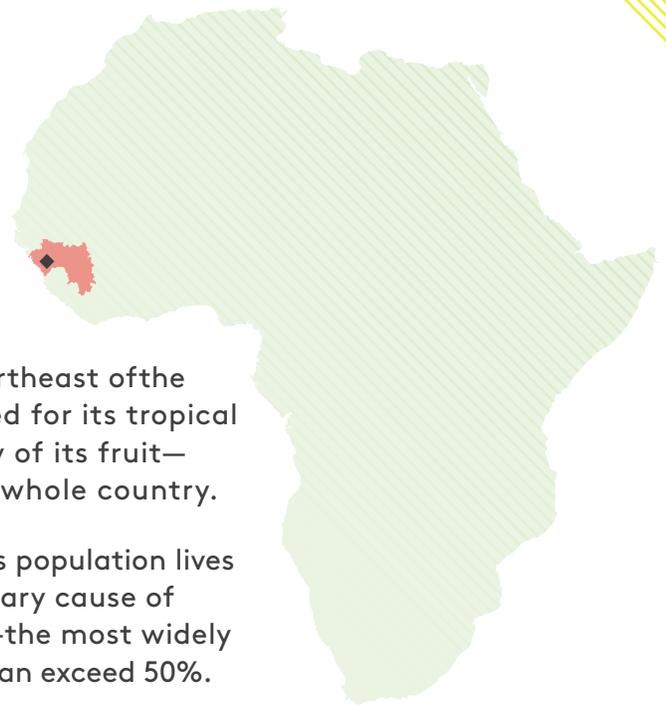
Kibili

Avocado oil:
a lever of development
for Guinea



An Enfants des collines Project

The *Kibili Project's* global goal is to contribute to the fight against poverty and food insecurity by decreasing post-harvest losses of avocado crops through improved trade circuits and oil processing techniques.



- ◆ Kibili Mountain is located a hundred kilometers northeast of the Guinean capital of Conakry. The area is often cited for its tropical climate, rich soil and especially for the superiority of its fruit—whose quality is highly regarded throughout the whole country.

Despite this apparent wealth, a third of this region's population lives in food insecurity. Post-harvest losses are the primary cause of this nutritional deficiency. In avocado production—the most widely grown fruit in the Kibili region—post-harvest losses can exceed 50%.

A shortage of storage infrastructure and the remoteness of this area make it difficult to deliver the fruit to local markets. Moreover, lack of knowledge and infrastructure to transform and make the most of this resource also lead to significant losses.

The Kibili Project is working with farmers to solve these problems by providing technical and organizational resources that are adapted to the natural and societal context in this region.

The project will develop an avocado press capable of extracting artisanal oil with renewable energy resources, decreasing post-harvest losses in this remote area. In parallel, a socially responsible company that is both adapted to the sociological context of Kibili and operated by farmers and their families will be established. This company will manage the processing unit as well as reinvest profits in projects for the common good of the community and the revitalization of villages.

The Kibili Project proposes to improve the entire value chain in the region's avocado production in order to minimize post-harvest losses.

GENERATING MORE VALUE OUT OF AVOCADOS

WHY? Contrary to popular belief, agricultural production is abundant in Guinea and most West African countries. Unfortunately, crops are undervalued, and a large portion of this abundance is lost before reaching regional markets. Producers have neither the means nor the knowledge to store, preserve and transform their fruits and vegetables into less perishable, value-added products.

Increasing the value of perishable foods through their transformation is one answer to food security problems in sub-Saharan Africa, particularly in remote areas where harvests cannot be sold out during peak production. Transformation—into oil, for example—is essential to allow efficient management of resources spread out over time.

Transformation does not require increasing the farmers' acreage and will extend shelf life thanks to the establishment of simple and innovative processes. This will directly improve food security through the conservation of products while increasing revenues for producers.

HOW? The avocado is the most abundant crop in the Kibili region, but because the villagers who cultivate these avocados have no way to process the product, they normally end up seeing half their crop rot beneath the trees. However, the avocado market is growing worldwide, and avocado oil processing could offer a profitable outlet for these families.

The majority of the oil produced worldwide is extracted industrially, using heat to reduce production costs. Producers benefit very little from this method of extraction because the generated surplus value goes primarily to manufacturers. In addition, producers in isolated rural areas are unable to access factories and thus cannot reap the maximum benefits of their own crops. Finally, hot extraction alters the oil, making it less beneficial for health and less useful in the production of cosmetics.

The Kibili Project solves these problems by setting up a cold oil extraction process that uses only renewable energy.

The oil produced this way will be of an exceptional quality and will be immediately popular with consumers and businesses in the food, pharmaceutical and cosmetics industries. Cold pressed oils are much more fragrant and flavorful and can be used directly, without additional refining, as with cooking oils.



Half of the avocados grown in the region Kibili are lost before reaching the local market. Oil processing will create value out of these losses.

WITH WHOM ?

Enfants des collines

The association Enfants des collines (The Children of the Hills) has worked for ten years in development cooperation in West Africa.

It has developed programs to combat child trafficking, offering microcredit for the creation of income-generating activities (palm oil, soaps, snacks, etc.), as well as for organic farming. Enfants des collines has also worked to increase access to clean water, build schools and health facilities.

The Agricultural Research Center for Development (CIRAD)

Based in Montpellier, CIRAD is a French research center that works with the Global South on international issues of agriculture and development.

In partnership with developing countries and development agents, CIRAD's research supports agricultural development and contributes to the debate on global issues concerning agriculture. Its activities involve the life sciences, social sciences and engineering sciences applied to agriculture, food and rural territories.

Union of Producers Samaya Guyafere (OPA)

The Union of Producers Samaya Guyafere (literally: the union of the mountain summit) was created in December 2011 after a split with the Union of Producers Samoukiri Samaya (the union of the plains) who did not adequately represent the interests of the Kibili region producers.

The Union of Guyafere covers Kibili villages in remote mountainous areas of the region. It works with 19 groups representing 532 members, composed of 319 women and 213 men.

BIRTH OF THE KIBILI PROJECT

The Kibili Project was initiated by Clea Rupp during her involvement with the Italian Food Security Project (2009–2013). The initiative is based on knowledge generated through this project, as well as a longstanding collaboration with the Union of Producers of Samaya Guyafere in the Kibili region. The main idea resulted from numerous interviews with producers conducted by Clea Rupp on the commercial issues, the difficulties they face and the value of their product. In 2014, Romain Javaux joined the project, adding his expertise in agronomy and his acute knowledge of the field.

Since 2015, the team has benefited greatly from logistical and technical support offered by CIRAD, which shares The Kibili Project's goal of developing a cold extraction method of avocado oil.

“According to a joint survey conducted recently by the World Food Program (WFP) and the Guinean Ministry of Agriculture, “One third of the Guinean population suffers from food insecurity and malnutrition.”

Source : Worl Food Programme

IMPLEMENTATION OF THE KIBILI PROJECT (2012-2015)

Field Research

Field research has provided us with both clear information about the area and reports on fruit production in the Kibili Mountains. Potential partners for outsourcing some activities have already been identified; traditional local leaders and institutional authorities have been informed and integrated into the project throughout the research phase. In 2014 and 2015, Mamadou Dian Diallo, a Kibili and local coordinator of the project, as well as a former member of the Italian Food Security Project, continued field research and investigation in order to refine this knowledge, identify local needs, and engage in ongoing discussions with producers, their families and other community members.

Technical Research

A research partnership was established with CIRAD at the beginning of 2015 to find a cold extraction method adapted to rural contexts.

Under the supervision of a CIRAD researcher, two interns began experiments to test different extraction processes and learn about the yield level of various presses. Students have also been studying conservation issues, oxidation, the composition of the oil depending on extraction method as well as preferences in the pharmaceutical, cosmetic and culinary industries.

Commercial Research

The first commercial research was conducted prior to the implementation of the project in Kenya (May 2014) and in Mexico (December 2014). These surveys yielded information on the different modes of global production and the international trade of avocado oil.

These surveys revealed that only New Zealand and Kenya produce oil with cold extraction for fair trade and organic labels. However, these systems do not use a traditional production method that would allow producers to have direct access to the full value of their product.

A PROJECT DEVELOPED ON TWO PRINCIPLES:

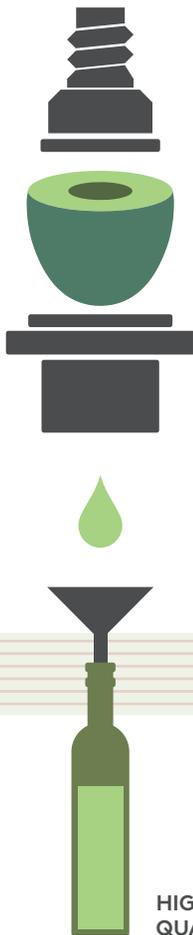
The Social and Solidarity Economy

"The Social and Solidarity Economy is a private economic sector with limited profit. Hailing from a particular geographic area, the SSE is based on participatory and democratic dynamics and supports action based on ethical, social and ecological criteria that place people above profit. [...] A company of SSE is a private organization [...] with no lucrative aim which produces goods and services while respecting the principles of social economy." (Geneva Chamber of ESS, 2010)

Fair Trade

Fair trade is an exchange system that aims to achieve greater equity in trade and eliminate some of the risk carried by small farmers in developing countries. Fair trade allows these farmers to receive a stable income in exchange for their production. The approach uses trade as development leverage and reduces inequality by ensuring the just remuneration of producers.

VALUATION OF OIL PROCESSING POST-HARVEST AVOCADO LOSSES



SOCIAL AND SOLIDARITY ENTERPRISE

The avocado oil-processing unit will be organized as a Social and Solidarity Enterprise in which the common good is more important than profit.

TECHNICAL INNOVATION

A cold extraction press that uses only renewable energy needs to be adapted to the context where the oil will be produced. It will be designed to withstand heat, dust and moisture—the three main factors causing deterioration of equipment in the South. Parts will be easily replaceable in order to reduce maintenance costs and extend the life of the press.

HIGH QUALITY OIL

Health:
High quality avocado oil is rich in vitamins A, D and E and in monounsaturated fatty acids. The oil is beneficial for cardiovascular disorders and has anti-inflammatory properties.

Cosmetics:
Avocado oil, rich in essential fatty acids and antioxidants, has a softening effect on the skin, regenerating and healing in ways that make it a hot commodity in cosmetics.

Food:
Cold-press extracted avocado oil has a sweet and fruity taste.



20%
For the region



80%
For capital
and exportation



Kibili AVOCADOS

50%

50%





FORMATION PRODUCERS

Farmers in the area will be trained to improve the quality, proper handling and conservation of avocados, to increase performance and to reduce losses due to poor harvests. Improving quality opens up new market opportunities to producers and increases selling prices.



ORGANIZATION AND STRUCTURATION OF THE UNION OF PRODUCERS

The Union of Producers will be trained in best-management practices in terms of structuring, organizing and defending the best interests of its members. A dialogue between producers and traders will be facilitated in order to create a climate of confidence—truly a winning business model for all involved.



FAIR TRADE AND ORGANIC

The oil produced in Kibili will be certified organic and fair trade in order to preserve soil and to fairly remunerate producers. Fair trade oil decreases the risk carried by producers, allowing them to rely on a minimum income in exchange for their production, regardless of price volatility. The reduction of intermediaries will also offer producers a higher return.

of avocados sold

of avocados wasted

LOCAL MARKET

NATIONAL MARKET

EXPORTS

PHASE 1

PILOTE PHASE

(October to December 2015)

Technical testing for a cold oil extraction process of avocados

As part of the partnership with CIRAD, a new press will be built—or an existing press converted—to carry out the first field trials and understand more about the exact yields obtainable with the avocados of the Kibili Mountains. The first samples of different types of packaging will also be tested for resistance to tropical conditions.

Field survey on governance and organization of social enterprise

Following a theoretical study on the social economy to be conducted in Switzerland, round table discussions will be held with the villagers of the Kibili region, the Union of Producers and other project partners to establish governance and legal systems for the production centers that are best suited to the social context.

Setting up local partnerships

In order to establish an effective North/South partnership, The Kibili Project will focus on cultivating local partnerships with NGOs to implement key activities in the field. The project team has already had the opportunity to work with the majority of these NGOs in the implementation of PISA, FAO.

As service providers, The Kibili Project offers technical support, structuring, training, research and monitoring. During this first field mission, the project aims to select providers and establish key partnerships.

Local market research

During the field mission, a business survey will be conducted to understand what opportunities exist at the local and national levels.

Research on alternative energy

The avocado oil processing plant will not rely on non-renewable energy, so alternative energy possibilities will be explored during the pilot phase.

A water tower and a solar oven, or a mixer and centrifuge, run on hydropower will be among the renewable energy systems tested and developed in partnership with specialized institutions in the development field in Africa.

FOUNDING OF KIBILI

2012

2013

2014

2015

Field study and recognition of needs

Technical investigation of avocado oil extraction

Commercial and technical research in Kenya

Commercial and technical research in Mexico

Collaboration with CIRAD

In progress: Analysis of the extraction and conservation methods

In progress: Investigation of the social organisation and governance structure

PHASE 2

LAUNCH

(January 2016 to March 2017)

The launch phase involves the establishment of the processing plant and, in parallel, the development of finance and management tools that will empower producers and staff. This phase includes: training of producers in fruit quality criteria and the recruitment of staff; and the cultivation of a culture of dialogue and trust between traders, producers, political and traditional authorities and other development partners.

At the end of this phase, which will include two harvesting campaigns, the processing plant will be able to process more than 70 tons of fresh avocados for a production of about 5 tons of oil. These 70 tons will be initially obtained by working with 80 avocado farmers and their families.

After this launch phase, and according to the results of trade investigations, about 80% of production will be channeled to Europe and 20% will be sold on the local market at lower prices.

PHASE 3

GROWTH AND DIVERSIFICATION

(April 2017 – 2019)

The third phase is one of growth and production diversification.

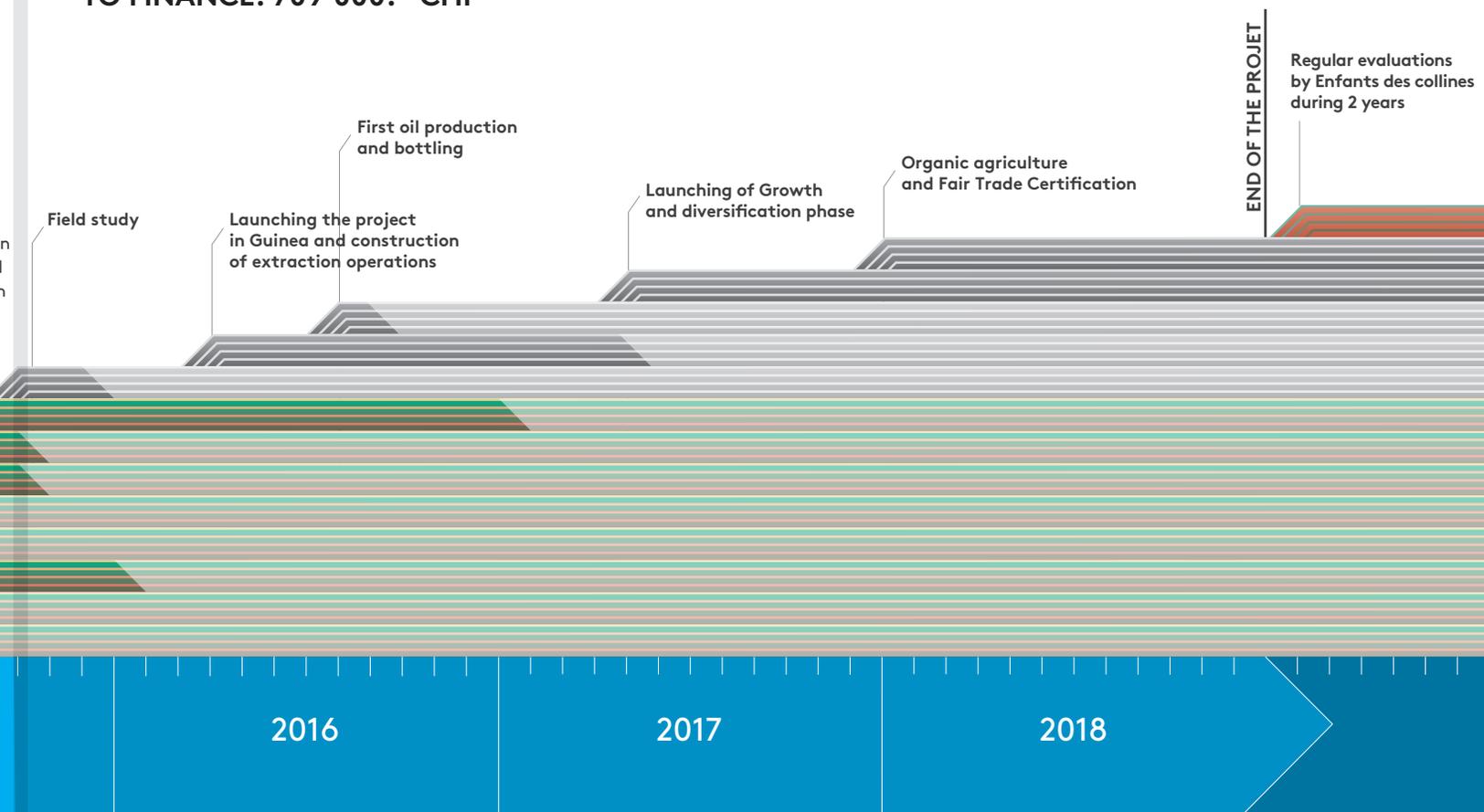
During the second year of production, the project aims to achieve all its yield and production goals—directly impacting the lives of 800 people in the region.

The goal is to gradually increase oil production and develop, in parallel, oil-derived products (such as soaps, other cosmetics and food products) to maximize the production potential of the processing unit.

This phase will also consolidate its various achievements in reinforcing the structure of the Union of Producers, improving the avocado sector, finalizing sales contracts, and obtaining organic and fair trade certifications.

The association Enfants des collines will continue to accompany the Union of Producers for two years after the end of the project in order to ensure a gradual withdrawal from the initiative. The Kibili Project will result in the first social and solidarity enterprise producing avocado oil in West Africa.

TO FINANCE: 709'000.– CHF



BUDGET TABLE

PHASE 1: Research Phase

RESEARCH AND DEVELOPMENT	67'000
FIELD RESEARCH	20'000
INVESTMENT	46'000
MARKETING, COMMUNICATION AND RESEARCH FUND	13'000
WAGES	22'000
ADMINISTRATION	20'000

TOTAL PHASE 1 CHF 188'000

PHASE 2 : Launch Phase

OPERATION OF PROCESSING UNIT	19'000
TRAINING	19'000
FIELD MISSION AND MONITORING PROJECT	27'000
INVESTMENT	106'000
COMMUNICATION AND FUNDRAISING	11'000
MARKETING	22'000
WAGES	41'000
ADMINISTRATION	21'000

TOTAL PHASE 2 CHF 265'000

PHASE 3 : Growth and Diversification

OPERATION OF PROCESSING UNIT	29'000
TRAINING	8'000
FIELD MISSION AND MONITORING PROJECT	29'000
INVESTMENT	112'000
COMMUNICATION AND FUNDRAISING	15'000
MARKETING	38'000
WAGES	49'000
ADMINISTRATION	21'000

TOTAL PHASE 3 CHF 301'000



TOTAL BUDGET OF THE THREE PHASES:
Enfants des collines: own funds

CHF 754'000
– CHF 45'000

TO FINANCE

CHF 709'000



PHASE 1

PHASE 2

PHASE 3

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The Kibili Project aims to improve every step of the value chain in the production of avocados, with the main focus of processing these fruits into oil. Anchored locally in Guinea, this project has the global potential to implement these innovations in other parts of the world. Unique in its approach, the project works with only the existing acreage of farmers, creating the conditions for the project to be sustainable and profitable thanks to targeted innovations.



TECHNICAL INNOVATION

The technical innovations required to extract avocado oil with a cold press are adapted to the challenging context and thereby operate using only renewable energy. Southern producers will have access to capital gains from the transformation of their product and can drastically reduce their losses. Innovative yet inexpensive solutions for storing and packaging fruit will also be implemented.



AN ORGANIZATIONAL INNOVATION

The establishment of a socially responsible company will include the implementation of innovative organizational protocols so that collective decisions can be made and further activities designed and implemented, with extreme care paid to the cultural context. This pioneering form of organization will replace the unequal distributive processes of private enterprise so that the entire community benefits and living conditions substantially improve.



TRADE DOUBLY FAIR

The precepts of fair trade will be used when marketing these products, eliminating some of the risk currently assumed by these producers. This type of commerce establishes stable contracts and fair purchase prices with all producers. Marketing will be organized in such a way that the sales price on the European market will be slightly higher in order to subsidize prices in the local market, where the economic context is quite different. In this way, the final product corresponds to the purchasing power of the different populations.