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ONLUS



The MALANDA

**A solidarity and sustainability project for food
processing and storage in SENEGAL**

Supported by:



**Social
Roots**



Fondazione
Giacomo Brodelini



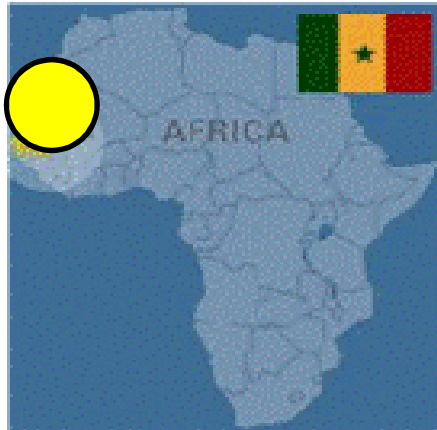
project

FOOD SAFETY
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Business idea



Building up a Pilot Centre for the agro-food transformation using solar energy plants in Foundiougne, contributing to the developpement of the whole products chain: production, transformation, storage, and trading.



The idea is in agreement with the **NATIONAL INVESTEMENTS PROGRAMME** of Senegal

INTERVENTION PRIORITIES



TOURISM



AGRICULTURE



FOOD



The MALANDA project fulfills two of the three Intervention Priority Lines



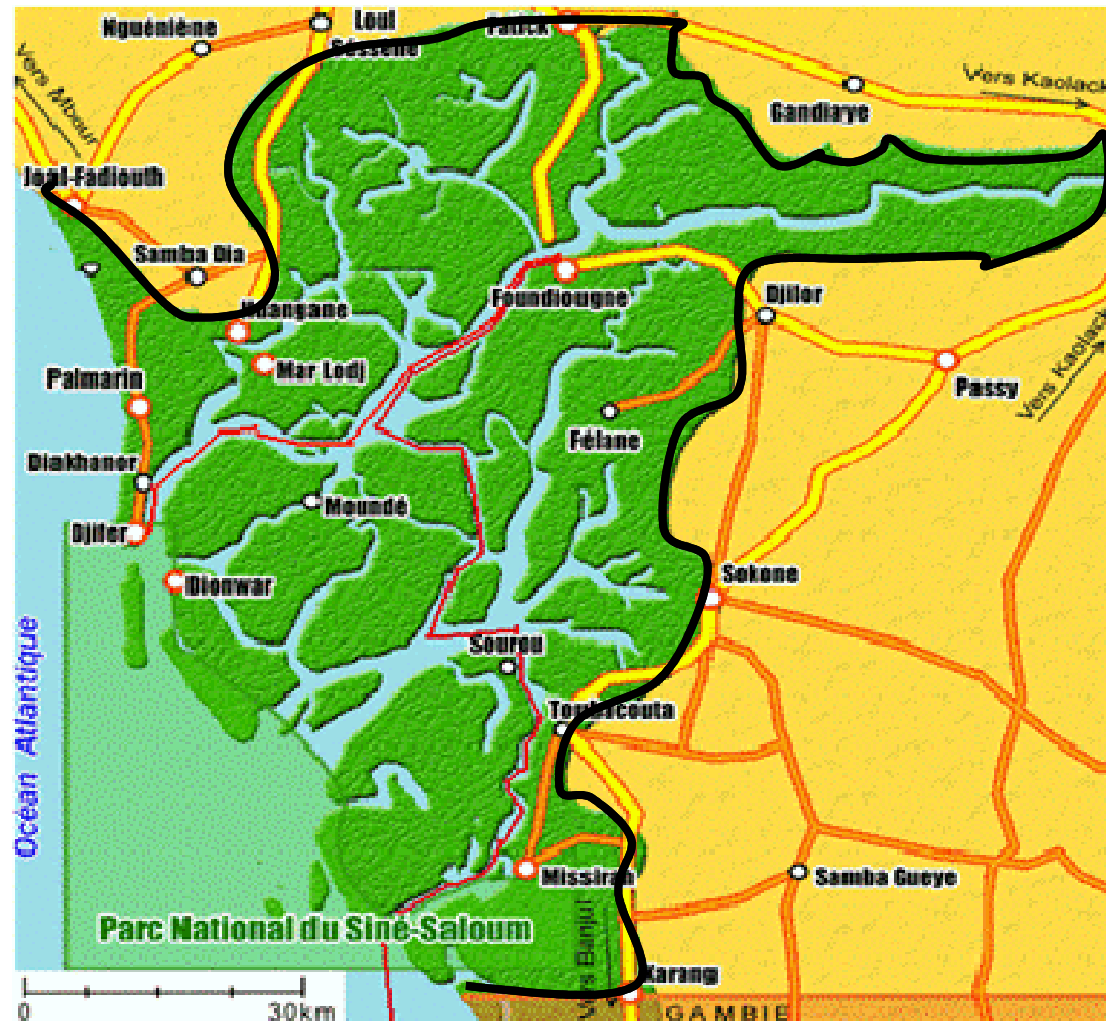
The project is based on basic requirements of a Social Company and meets the following criteria:

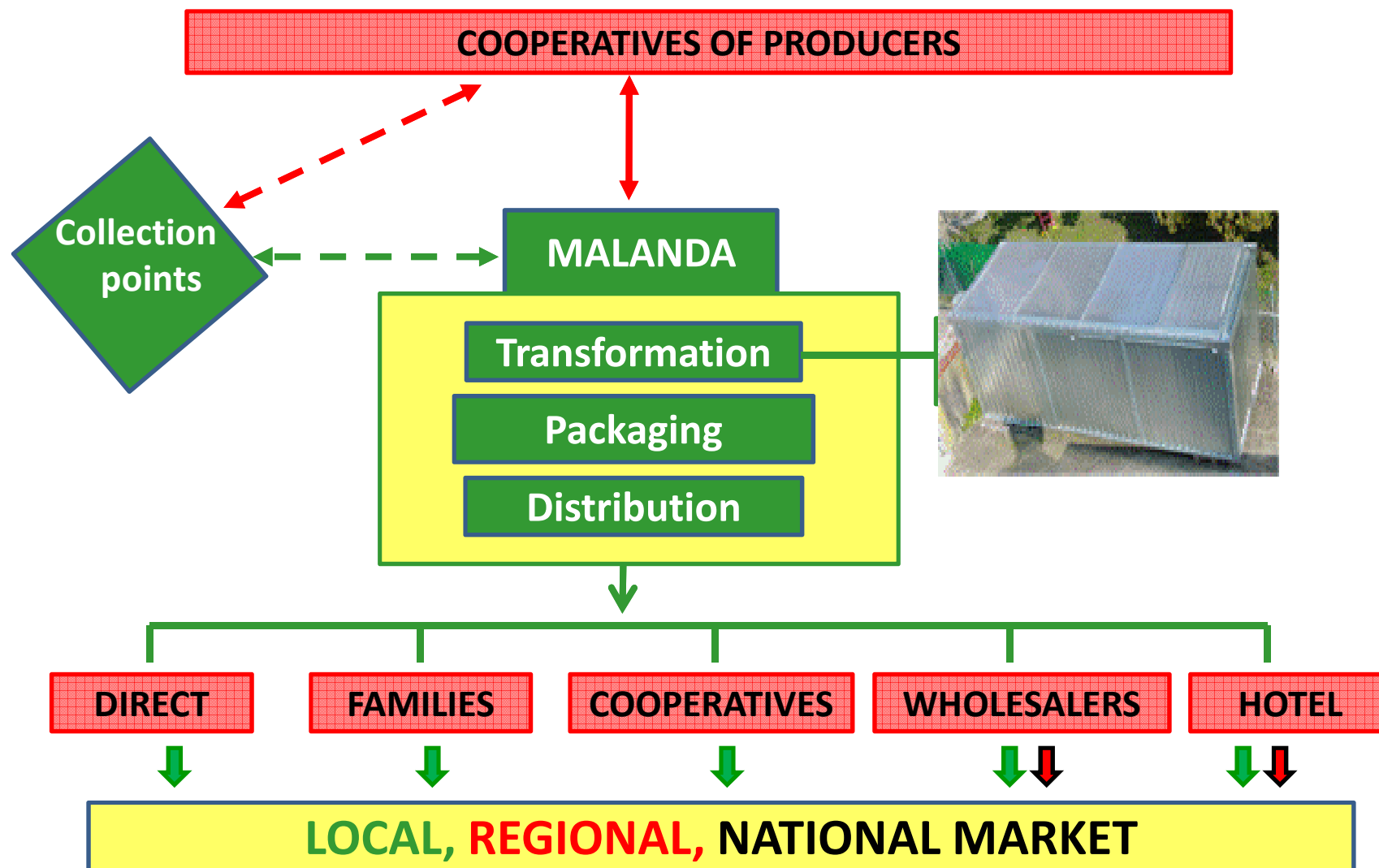
- **Social and environmental impact**
- **Financial sustainability**
- **Local community support**
- **Women training and employment**
- **Scale transferability**
- **Process innovation**



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Operational area







Apple (Pomme de cajou):

The fruit is a by-product of the cashew chain.

High sugar (12%) and vitamin C (24mg/L) contents.

Source: Ribeiro et al., JNIRS, 24, 77-82 (2016)

The Fatick Region produces 10% of high quality cashew national production.

State of art

Seasonal product. Only the external seed is used (cashew).

The largest part of the apples (85%) is **directly discarded at harvesting** due to the difficulty of storage caused by its high moisture content.



MALANDA proposes in original form a local product largely underused

Apple slices partially dehydrated with hygiene and safety warranty, and good quality maintenance during shelf life



Red and white hibiscus (BISSAP)

Rich in vitamin C and anthocyanins, anti-oxidant substances improving the functions of blood capillaries.

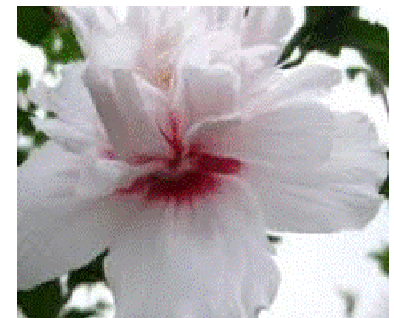
Suitable for heart diseases and best alternative to blueberry juice.

Source: Huetz de Lemp, Boissons et civilisations en Afrique, Presses Universitaires de Bordeaux, Pessac, 2001, p. 272-274 (ISBN 2-86781-282-8)

State of art

Flowers are grown and traditionally used as food and beverage ingredients, pharmaceuticals, cosmetics.

The current air-drying process doesn't provide hygienic quality.



MALANDA introduces a new transformation process

Dried, packed, and safe flowers for better storage and shelf life.



Shrimps

Basic food in Senegalese cooking independently of the social level.

State of art

The Fatick Region has a wide delta area with a front of about 70 km and numerous fishermen villages.



Key product of local economy currently processed only artisanally by air drying, which doesn't provide hygienic quality.



MALANDA introduces a new transformation process

Dried, packed, and safe shrimps for better storage and shelf life.



Prawns

Good amount of Poly-Unsaturated-Fatty-Acids (PUFA) and excellent ratio between omega 3 e omega 6 (Essential Fatty Acids - EFA).

Source: U.S. Department of Agriculture, Agricultural Research Service. 2011.



State of art

The Fatick Region is the production area of excellence.

Prawns are currently traded **ONLY** fresh or frozen in supermarkets in large cities. A small amount **not peeled** is locally consumed after air-drying (low hygienic quality).



MALANDA aims to diversify the offer
Peeled, dried, packed prawns for a safe storage
and shelf life.



Cashew apple jam

State of art

ONLY 10% of cashew apple (pomme de cajou)
National production is artisanally processed
In Senegal Southern Regions for local and home
consumption.



After jar opening, the product must be consumed rapidly due to the lack of cold chain, preventing a large production and trading.

MALANDA introduces a new transformation process

With proper technology MALANDA will start the production by
improving the jam quality and its shelf life.



This will enable new market opportunities
and recovery of returns/processing waste of dried apple slices.



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Production area



CASHEW APPLE



HIBISCUS



**SHRIMPS
PRAWNS**



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The Company



Legal entity: Social Cooperative ONLUS (NPO)

Agri-food sector



Site: Foundiougne (already available building)

**Second Operational Unit (SOU) starting at 4° year of activity
in Toubacouta, 100 km far from Foundiougne**

The project is sponsored by A.SI.SI. (Associazione Alleanza Senegal – Italia , Solidarietà&Integrazione) and the Department of Foundiougne



The Cooperative in summary

- ❖ The cooperative structure is composed of founding members who believe in the validity of the project and the opportunity for a wide development of the business model
- ❖ Cooperatives of producers and suppliers already contacted have expressed a strong interest in cooperation with Malanda
- ❖ The Council of Foundiougne Department confirmed its support and sponsorship of this initiative
- ❖ The obvious population need and the non-profit social policy adopted represent a solid foundation of the cooperative

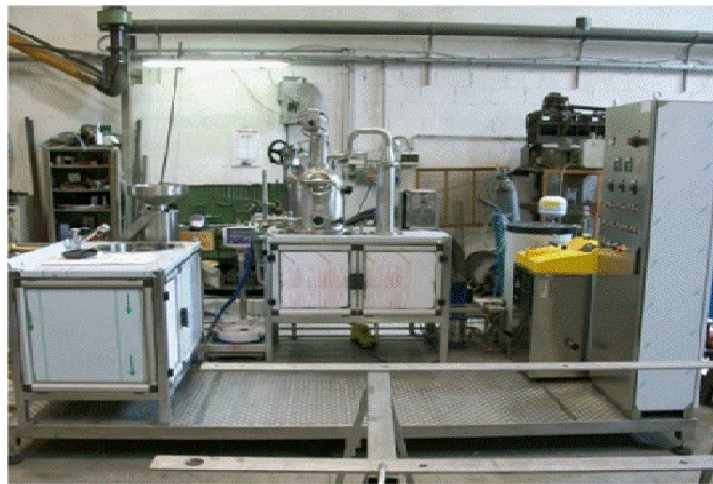


TRANSFORMATION PROCESSES

MALANDA



Solar drier



Jam line



Safety QC



Production strategy



- **Optimisation of the dryers capacity in relation to the seasonality of products (process optimisation)**
- **Modularity, extensibility and flexibility of the system**
- **Exclusive use of solar energy**
- **Diversified production capability**
- **High safety for the operators**
- **Simplicity of design principle and negligible operating costs**
- **Easy to use with a minimal training**
- **Re-use of waste products for a circular economy**

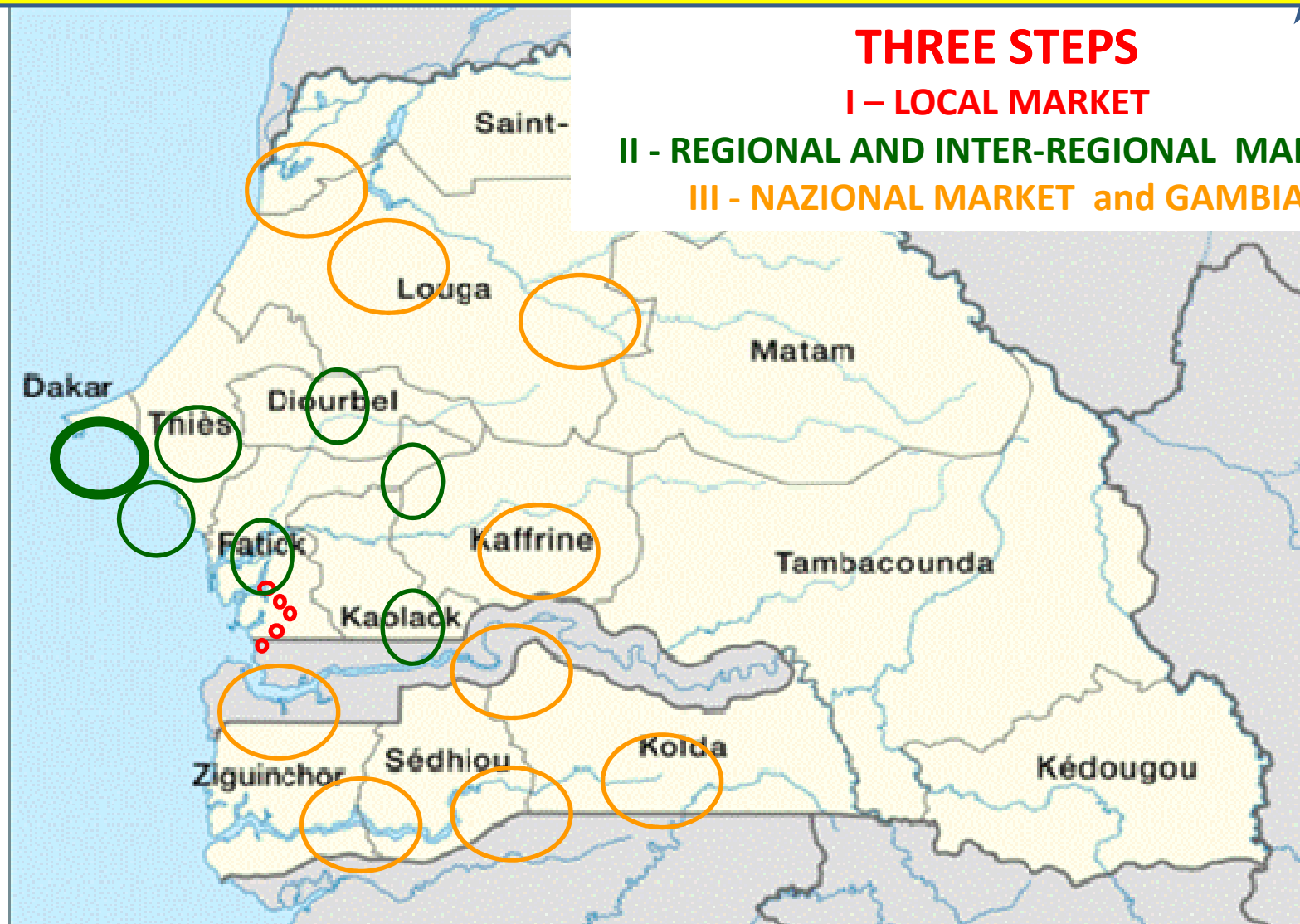
Target markets

THREE STEPS

I – LOCAL MARKET

II - REGIONAL AND INTER-REGIONAL MARKET

III - NATIONAL MARKET and GAMBIA





Environmental and social impact



ADVANTAGES

Social

- Occupational involvement in the whole chain:
 - Farmers and harvesters of raw materials
 - Experts of processing and distribution
- Opportunities for women's employment
- Well-being improvement due to quality, variety and availability of food

Environmental and Natural

- Reduction of wastes
- Procedures for collecting, processing, disposal and waste recycling
- Energy saving
- Heating water using solar and photovoltaic technologies



Cultural and relational impact



ADVANTAGES

Cultural

- Management and agribusiness training
- Transfer of training and knowledge in other operational units
- Transposition of operational transformation protocols
- Food information program

Relational

- Development of new relationships with external stakeholders
- Creation of new economies of scale
- Creation of a synergic network between suppliers and distributors
- Developing new partnerships



Economic and industrial impact



ADVANTAGES

Economic and financial

- Self sustainability in the short-term
- Reinvestment of profits:
 - New Production Lines
 - Replication of the model in other areas
 - Employment increase
- Re-distribution of the generated economic value in the whole chain

Industrial

- Work safety assurance procedures
- Certification of food safety
- Use of technologically advanced plants
- Standardized procedures for production and processing
- Supervision and control of Independent Scientific Bodies



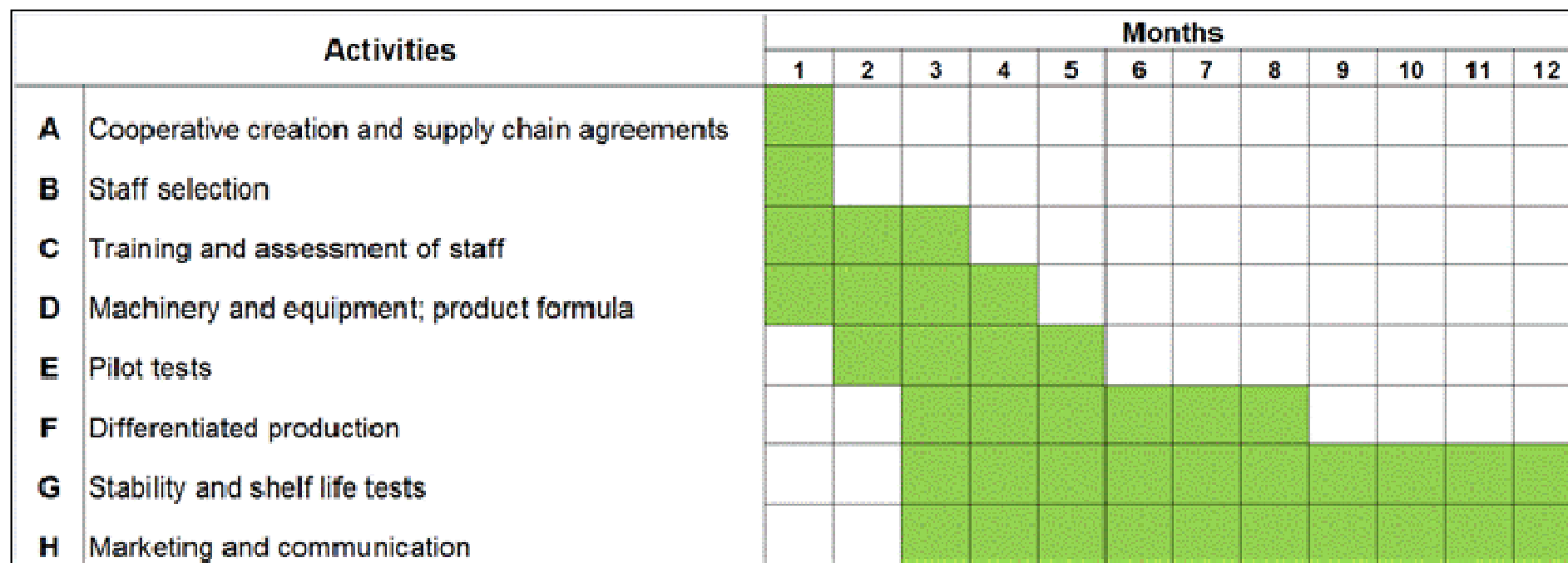
KEY FIGURES

✓ Technological investment to start (including regulatory adjustments)	45,000 €
✓ Working capital required to start	42,000 €
✓ Total production – first year (cashew apples, hibiscus, shrimps)	25,000 kg
✓ Income – first year	170,000 €
✓ EBITDA – first year	24,000 € (14%)
✓ Staff – first year	11

BREAK EVEN in 12 MONTHS
BREAK EVEN in 12 MONTHS



Gantt chart



Economic statement



ECONOMIC STATEMENT	1 st year	2 nd year	3 rd year	4 th year
A) Production income	170,863	248,554	335,337	450,401
B) Production costs	88,473	131,283	185,544	262,520
C) OPEX	58,355	62,205	75,130	110,550
- Overheads	25,005	28,885	35,830	56,050
- Marketing	5,000	5,000	6,000	8,000
- Staff and Management	28,350	28,350	33,300	46,500
D) EBITDA (A-B-C)	24,035	55,066	74,663	77,331
Amortisation	14,333	14,333	39,433	26,700
Profit before taxes	9,702	40,733	35,230	50,631
Taxes	0,000	0,000	0,000	0,000
Profit /Loss	9,702	40,733	35,230	50,631
% Profit	5.68	16.39	10.51	11.24



The Malanda team



Pape Niang (Malanda), Annamaria Stellari (CREA-IAA), Antonio Piroso (ManagerItalia Milano), Tiziana Cattaneo (CREA-IAA), Mamadou Lamine Ndao (Malanda), Vittorio Santacroce (ManagerItalia Milano)



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