

REPUBLIC OF CAMEROON
Peace - work - Fatherland



INCREASING PRODUCTION AND QUALITY OF HONEY

A PROJECT PROPOSAL



PREPARED BY:

EDOCAM & SONS ENTERPRISE
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TABLE OF CONTENT

	Page
Project summary sheet	3
1. Project title	5
2. Project focus area	5
3. Context	5
4. Justification	5
5. Project description	8
6. Objectives	11
7. Project location	11
8. Project duration	11
9. Target group and beneficiaries	11
10. Project implementing organisation	12
11. Project Logical Framework	13
12. Project implementation mechanism	15
13. Project implementation time-table	19
14. Project cost estimate	20
15. Total project cost estimate	25
16. Project income statement	26
17. Mechanism for income management and sustainability	27
18. Project risks and mitigation measures	28
19. Annexes	29

PROJECT SUMMARY SHEET

Project Title	Production and marketing of good quality honey
Project thematic Area	Apiculture
Executing Agency	EDOCAM & SONS ENTERPRISE
Group Representative	AITKINS DISONGE ELTON (<i>Director</i>) ; Tel: (237) 33354769 / 70051719
Project Location	Kumba, Mbonge Road Meme Division South West Region Republic of Cameroon
Project Beneficiaries	<ul style="list-style-type: none"> • Consumers of honey • Local beekeepers • Manufacturers/suppliers of beekeeping equipment and honey processing equipment • Workers of EDOCAM Company and their families
Global objective	To raise revenue, create employment and improve on the socio-economic status of community members through the production and marketing of good quality honey using the best apicultural practices with active participation of community members themselves.
Specific objectives	<ul style="list-style-type: none"> • To construct 01 honey processing factory by December 2011-07-23 • To install 10 000 Langstroth hives in 100 locations within Meme Division of the South West Region by the end of December 2011 • To produce 100 litres of honey per box (hive) per year
Expected Results	<ul style="list-style-type: none"> • Increase capacity to produce high quality honey • Creation of labour • Increased income

Main Activities	<ul style="list-style-type: none"> • Construction of factory • Recruitment of staff • Training • Purchase of materials and equipment • Identification and preparation of apiaries • Installation of hives/ maintenance • Harvesting • Processing • Packaging • Marketing • Monitoring and evaluation • Reporting
Budget estimate	5,098,129,760 FCFA
Own contribution (30%)	1,529,438,928 FCFA
Amount already engaged	950,000,000 FCFA
Project Duration	07 years (first phase)
Project starting date	January 2010
Project impact and sustainability	<p>Increased income and improvement in living standards. Income generated by the project will be shared as follows:</p> <ul style="list-style-type: none"> - 40% will be re-invested into project - 40% shared among members - 10% into the savings account and - 10% into educational and administrative funds

1. **PROJECT TITLE:** Production and marketing of good quality honey

2. **PROJECT FOCUS AREA:** Beekeeping (Apiculture)

3. **CONTEXT**

Meme Division, the area where the project will be implanted is the one of the 6 divisions in the South West Region. Kumba, the headquarters of this division is the largest cosmopolitan towns in the Republic. The town of Kumba has a population of about 700,000 inhabitants and could be considered the largest in the South West Region and acts as a junction town from Fako, Ndian and Kupe Muanengouba Divisions. Being a cosmopolitan town, the population of this town and its environs are involved in diverse income generation activities. Close to 60% of the population are involved in agricultural, livestock, apicultural, transport and marketing activities at different levels. There is therefore a huge market for products of agriculture and livestock origin.

4. **JUSTIFICATION**

In Cameroon over 70% of the population depends on agriculture alone for their livelihood. While women's farming activities focuses on the range of food crops grown chiefly on degraded soils, men's responsibilities are concerned more with the exploitation of newly opened up forests and woody perennials export crops mainly cocoa and coffee. Since the economic base of the country is basically agricultural, economic progress therefore depends to a large extent on exploiting the agricultural potentials and developing the agricultural sector. For the past 2 decades or so, this sector has experienced a dismal record. Aggregate out put continues to lag behind population growth rates, per capita income has declined steadily while the export-base crops continues to shrink due to deterioration of the terms of trade.

The reliance on conventional export crops has met with major set backs - fluctuating trend in prices. This has been worsened by increase in input and fuel prices that has recently led to global food crises. Adopting the policy of agricultural enterprise diversification may be the key to counteracting the incessant price fluctuation for export crops and maintain or increase household income. There should be a gradual move from the total dependence on export crops to food crops - many of which have been discovered to have great domestic and economic potentials. Among the agricultural or livestock enterprise with the potential of fetching more revenue is beekeeping and honey production.

Beekeeping here entails managing honeybee colonies in such a way as to obtain a large (or maximum) adult colony population to coincide with the major honey (nectar) flows in an area, and utilize this population to the beekeeper's greatest advantage for storing honey and/or pollinating crops.

Bees are least demanding of space, and perhaps the most easily adapted to worldwide rural development efforts. Yet, they are an often forgotten component in agricultural programs. This is unfortunate because bees can be particularly valuable to tropical countries, providing pollination of crops, useful products, and a premium source of income. Beekeeping and honey production is advantageous in that,

- Honey is income generating. Honey has a high cash value relative to its weight and bulk. Properly stored, it is essentially a non-perishable product. It is economical and easy to transport.
- It has a nutritional (rich in vitamins and mineral) and medicinal value
- Bee wax provide raw materials for industries (paint, polishes, cosmetics)

- Bees conserve plant life, contribute in increasing crop yields, and help protect the environment.
- It does not require a huge investment or space. Honey bees are raised in bee boxes and require very little care.
- Beekeeping needs a relatively small investment. It uses little land and the quality of land is not important. Few other livestock enterprises require less capital, less space, or less attention.
- Beekeeping creates employment for men, women, children and youths
- It can be carried on as a productive secondary activity with low level technology, or as a primary undertaking with more complicated techniques.
- Beekeeping does not compete for resources with other types of agriculture - the nectar and pollen of plants are a true bonus.

Bee-killing or bee-having has been a common and traditional practice in many rural communities. This practice could be supported due to little understanding of the biology of the bee and the lack the training to make optimum use of their equipment.

Today, this is not the case. Growing population has led to increase demand for good quality honey. Good honey is scarce and where available it is most of the times adulterated. Many farmers have grown it on a smaller and non profitable scale that could not meet the demand of the ever-increasing population. Today, there is no veritable beekeeping factory in Cameroon.

In spite of these advantages, there has been little increase over the last few years in poultry production. One of the reasons for this is the predominance of traditional production methods and the lack of investment capital. More modern, medium and large-scale production is expected, however, in view of high population growth

and the sharp rise in the price of honey and honey products, especially in urban areas.

The double challenge of alleviating rural poverty and providing food for the ever-increasing population while sustaining the environment needs urgent attention. It is on the basis of these that the present project has been designed.

The project thus aims at satisfy consumer demand, improve nutrition, direct income growth opportunities to those who need them most, and alleviate environmental stress. The production of pure honey will be the main focus of this project since it presents fewer technical and financial constraints.

Despite these numerous advantages honey production is still at its subsistence level. This has led to scarcity and where good honey is produced it is most of the time adulterated. Good quality honey is highly priced and the demand is continuously on the rise. This means the income generated from honey is high and would continue to rise.

All of these characteristics coupled with a good knowledge of bees and efficient management techniques make beekeeping an attractive enterprise to invest in. This will go a long way to reduce poverty and improve on the living standards of the local population. Given the suitable climate and the abundance of bee flora in the area, swarms multiply in nature.

5. PROJECT DESCRIPTION

Bee keeping is an important component of agriculture. In Europe as well as in Africa beekeeping has been a long tradition. Almost every village in every tropical country traditionally has had a beekeeper or two. In the past and still practiced, the hunter smoked, burnt and destroyed the hives to get at the honey. Most use "seat-

of-the-pants" methods and "rustic" hives, and this generally leads to low yields and inefficiencies.

Today, numerous innovative methods and appropriate equipment are available. Many are still not widely known yet their importance is slowly being recognized.

Small-scale beekeeping projects sometimes introduce modern beehives (moveable-frame hives) to traditional beekeepers without readily available inputs, follow-up or technical assistance. This can result in a relatively high investment in equipment in anticipation of a high return, but the technical ability to operate this equipment and realize its potential is lacking.

As opposed to traditional beekeeping methods that produces little and low quality honey, the present project will employ modern or "high tech" beekeeping, moveable-frame hives (Langstroth hive) to obtain maximum honey production. It is a project that will move from Bee-killing, Bee-having to actual Beekeeping.

The secret of higher honey production lies in the fact that these improved hives allow certain management techniques (which are not possible with traditional hives.)

10000 boxes (hives) will be installed in 100 sites each 4 km apart spread around the whole of Meme Division. This means each apiary will constitute 100 Langstroth hives will be installed per apiary. Suitable areas will be identified, prepared and benches built on which the boxes will be placed at height of 170cm so as to avoid much humidity and positioned at different directions. Honey is expected to be harvested at least twice a year. Upon harvest, the honey will be conveyed to a factory where it will be refined through a laboratory (humidity reduced to acceptable standards of 15 - 18%, pollen removed), filled into 300 *litre* containers

(coated with beeswax), labelled, stored under moderate conditions and exported. Factory will be managed by qualified staff and the unskilled have to undergo appropriate training in beekeeping and honey production.

A major part of the project will be training and follow-up since project success will revolve on these. Training themes will among others include, bee biology, apiary and hive management, etc. Project is also expected to train some young Cameroon practitioners and aspirants in bee farming through organised workshops. 02 of such training will be organised per year on identified themes after a training needs assessment.

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6. OBJECTIVES

Global Objective

To raise revenue, create employment and improve on the socio-economic status of community members through the production and marketing of good quality honey using the best apicultural practices with active participation of community members themselves.

Specific Objectives

- To construct 01 honey processing factory by December 2011-07-23
- To install 10 000 Langstroth hives in 100 locations within Meme Division of the South West Region by the end of December 2011
- To produce 100 litres of honey per box (hive) per year

7. PROJECT LOCATION

The project will be located in Meme Division of the South West Region of Cameroon. The factory will be based in Kumba, (precisely in mile 1) the headquarters of the Division.

8. PROJECT DURATION

The project will last for 07 years in the first phase

9. TARGET GROUP AND BENEFICIARIES

The project targets the youths. The beneficiaries will include amongst others:

- Consumers of honey
- Local beekeepers
- Manufacturers/suppliers of beekeeping equipment and honey processing equipment
- Workers of EDOCAM Company and their families

10. PROJECT IMPLEMENTING ORGANISATION

Name: EDOCAM & SONS Enterprise
 Date created: FEVRIER 2005
 Date legalised: 25 MARCH 2009
 Registration: 25 MARCH 2009
 Number: RC/MUN/2009/A.26
 Status: Limited Liability Company
 Headquarters: Mundemba, Ndian Division
 Branches: Italy, Kumba, U.S.A. Germany, London
 Number of employees: (male);22 (female): 15
 Management team: 7
 Group representative: AITKINS DISONGE ELTON
 Main objective:
 Complete address: EDOCAM Bee Project
 P.O Box: 68 Kumba
 Meme Division, South West Region
 Republic of Cameroon
 Tel (237) 77494822/ (237) 70051719
 Email: edocambeeproject@yahoo.com

11. PROJECT LOGICAL FRAMEWORK

	Intervention logic	Objectively verifiable indicator	Sources of verification	Assumption
Specific objective	Increased honey production	✓ By December 2011, 1,000,000 litres of good quality honey is produced and exported with 100l produced /hive /year	Statistical report from company	Banks and aid agencies support project
Result 1	Improved hive installed and colonised	✓ 100 00Langstroth hives set up in 100 apiaries and colonized by December 2011	Purchase receipts Worker interview Field visits	Availability of healthy colonies Banks accept to finance(support) project
Result 2	Improved apiary management practices	✓ 02 workshops organised and 50 beekeepers (26 male and 14 female) are trained on bee biology and requirements, apiary sites and management; record keeping etc ✓ Enterprise function with greater effectiveness and efficiency	Attendance sheet and workshop reports	
Result 3	Improved honey extraction methods	✓ By December 2011, 01 honey extraction and refining unit is set up ✓ Quality of honey improved by at	The building plan Visit to processing unit Laboratory test	Adequate funding and on time

		least 98 % by December 2011		
Results 4	Increased access to agricultural (apicultural) loans	✓ By 2013, at least 01 bank finances apicultural projects	Report from taxation department, MFIs	Interest on loan lower than other commercial banks; Loans are reimbursed on time

ACTIVITIES

Result 1	Result 2	Result 3	Result 4
1. Identify and map out suitable apiary sites	1. Carry out training needs assessment	1. Purchase materials and equipment	1. Identify bank and loan conditions
2. Improve access to sites	2. Organise the workshops	2. Transport to processing unit	2. Prepare and submit application file
3. <i>Prepare sites</i>	3. Carry out the training	3. Install equipment	3. Follow-up
4. Purchase, transport and install hives	4. Follow up the training	4. Extract and refine honey	
5. Monitor hives and apiary			

12. PROJECT IMPLEMENTATION MECHANISM

Like any other industrial activity, intensive honey production implies: capital investment, technical skills, know-how, permanent supervision, rigorous management and commercial ability. Every activity in apiculture has its own specific technical features which the manager must be on top of and trained personnel are essential.

Therefore to minimise risk, contribute to productivity of the apiaries and increase income, the following implementation mechanism will be put in place and in line with the following strategies:

Management

A project management team will be set-up. It will comprise individuals with beekeeping, management and monitoring skills. They will work in direct collaboration with staff of the Ministry of Agriculture and Livestock. Their primary role will be to monitor and determine the input-output ratio; implement corrective measures where appropriate and in consultation with other professional groups. Field officers will be recruited based on knowledge, experience and commitment to the business. the project will have a staff strength of 35 distributed as follows:

Management staff

1. Director General
2. Project Manager
3. Secretary (02)
4. Accountant
5. Store keeper
6. Marketing manager

Field personnel

1. Field operation (production) manager
2. Project officers (10)

Factory personnel

1. Factory manager
2. Laboratory technicians (2)
3. Extraction officers (2)
4. Packaging officers (2)
5. Maintenance engineers

Project support staff

1. Drivers (07)
2. Cleaners (02)
3. Day/night watch (02)

Resource mobilisation

Prior to project execution human, materials and financial resources have to be mobilised. The traditional leaders and community members (where apiary will be set up) will be contacted to offer suitable site for apiaries. The technical services of MINADER/MINEPIA will be contacted for necessary technical assistance (when necessary). Local materials will be made use of where appropriate. Financial resources will be raised from company contribution, support from national and international funding agencies and from bank loans.

Bio security

That is, the maintenance of proper and effective disease-control programs to avoid contamination.

Construction of a processing plant

The processing plant will consist of an office, a laboratory, a warehouse and a shop according to a designed plan. The necessary construction materials will be purchased and imported when necessary.

Purchase and installation of the processing unit or materials

Considering that the beekeeping materials and equipment for the processing unit are special, they will be imported from special manufacturers. The supplier of the machine will accompany the machines, install them and at the same time carry out the training on its functioning and maintenance.

Capacity building (training) for staff

Training and follow-up activities have been recognized as the key focus points of any beekeeping project. Therefore, a rapid training needs assessment will be carried out by the technical staff to identify knowledge gaps. These will be carried out through group discussions and desk analysis. After this, consultants will be contacted to prepare the different training packages and budgets. Training themes may include, bee biology, apiary and hive management , etc.

After the workshops the technical staff will monitors the effects of the workshop, that is, any changes in managerial ability and the functioning of the unit and the enterprise as a whole.

Harvesting and Processing

After harvest, the supers will be transported immediately to the processing unit through a special van. Here the honey will be extracted, refined to standards, packaged, labelled and stored in preparation for export.

Building partnership

Building partnership with operators in the industry (including technical staff) in order to guarantee regular supplies, product outlets and a degree of price stability

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14. PROJECT COST ESTIMATE

A. Building and furniture

Budget item	Unit	Quantity	Unit cost	Total cost
Building (processing plant)	Unit	01	55,400,050	55,400,050
Cold store (for royal jelly)	Unit	01	60,000,000	60,000,000
Executive table	Unit	02	1,200,000	1,200,000
Executive chair	Unit	02	500,000	1,000,000
Table chairs	Unit	06	50,000	300,000
Set upholstery set	Unit	02	1,000,000	2,000,000
Computer table	Unit	02	300,000	600,000
Plastic office trays	Unit	04	30,000	120,000
Filing cabinet	Unit	04	250,000	1,000,000
File shelves	Unit	02	300,000	600,000
Conference tables	Unit	02	600,000	1,200,000
Conference chairs	Unit	50	50,000	2,500,000
Floor carpets	Unit	03	200,000	600,000
Stamp rack	Unit	02	15,000	30,000
TV stand	Unit	02	80,000	160,000
			Sub-total A	126,710,050

B. Office equipment/electronics

Budget item	Unit	Quantity	Unit cost	Total cost
Wall clock	Unit	02	50,000	100,000
Fixed phones	Unit	02	200,000	400,000
TVs	Set	02	300,000	600,000
Digital Camcorder	Unit	01	900,000	900,000
Digital Camera	Unit	01	600,000	600,000
Air-conditioners	Unit	04	800,000	3,200,000
Vacuum cleaner	Unit	01	300,000	300,000
Window blinds	Unit	17	35,000	595,000
Desktop computers	Unit	04	800,000	3,200,000
Laptop	Unit	10	1,200,000	12,000,000
Photocopier	Unit	01	1,500,000	1,500,000
Scanner	Unit	01	700,000	700,000
Fax machines	Unit	01	250,000	250,000

Printer (colour)	Unit	01	600,000	600,000
Printer (laser)	Unit	02	900,000	1,800,000
Voltage stabilizer		04	100,000	400,000
Back-up		04	150,000	600,000
fixed phones		02	200,000	400,000
Internet connection		01	500,000	500,000
Generator (LEISTER)		01	17,000,000	17,000,000
			Sub-total B	45,645,000

C. Movable (vehicles)

Budget item	Unit	Quantity	Unit cost	Total cost
Administrative (PRADO)	Unit	01	35,000,000	35,000,000
4-Wheel-drive vehicle (HILUX)	Unit	04	25,000,000	100,000,000
Motorcycles (YAMAHA AG)	Unit	10	3,800,000	38,000,000
20 tons Truck	Unit	02	70,000,000	140,000,000
			Sub-total C	313,000,000

D. Office supplies

Budget item	Unit	Quantity	Unit cost	Total cost
Pens	Packet	192	5,000	960,000
Rulers (30 cm/50cm)	Unit	140	300	42,000
Papers	Carton	490	30,000	14,700,000
Flip chart	Roll	20	15,000	300,000
Bold markers	Packets	100	10,000	1,000,000
Pencils	Packets	20	1,500	30,000
Field notebook (A4)	Packet	140	1,500	210,000
Computer cartridges	Packet	40	70,000	2,800,000
			Sub-total D	20,042,000

E. Beekeeping and honey processing equipment

Budget item	Quantity	Unit cost	Total cost
Bee-hive	10000	154,855	1,548,550,000
Bee-wax coated plastic (10 frames)	100000	9,450	945,000,000
Hive carrier	100	42,100	4,210,000
Hive net	10000	14,970	149,700,000
Smoker	100	20,000	2,000,000
Smoker fibre fuel	1000	16,700	16,700,000
Bellows Duster	10	17,370	173,700
Swarm lure	10	7,000	70,000
Bee Repel 500 ml.	100	8,970	897,000
Complete bee suit	100	54,090	5,409,000
Leather gloves	50	17,500	875,000
Hive tool	30	7,170	215,100
Frame cleaner tool	20	2,810	56,200
4 pint rapid frame feeder	100	8,750	875,000
Frame grip	20	10,770	215,400
Wooden bee brush	100	4,770	477,000
Electric uncapping knife	10	55,440	554,400
Uncapping scratcher	30	4,770	143,100
Uncapping tank	03	500,000	1,500,000
Uncapping machine	02	900,000	1,800,000
"DISO 2" uncapping machine and press unit	02	1,200,000	2,400,000
Honey filtering tank with strainer	02	350,000	700,000
Impeller pump	02	600,000	1,200,000
Dehumidifier	02	550,000	1,100,000
Hygrometer	02	70,000	140,000

Refractometer	02	120,000	240,000
Heated Honey mixer	02	700,000	1,400,000
Automatic filling machine (filling, capping and labeling)	02	7,000,000	14,000,000
Supers trolley	10	75,000	750,000
8-frame motorized honey extractor	02	750,000	1,500,000
Stainless steel strainer	100	50,000	5,000,000
Honey bucket and filtration kit	100	23,930	2,393,000
Replacement filter bags	200	15,000	3,000,000
Stainless steel honey buckets	200	55,000	11,000,000
Stainless Steel Pail Perch	05	23,970	119,850
Honey, Storage tank (1000kg)	1000	800,000	800,000,000
Electric wax melter	02	510,000	1,020,000
4l pail heater	10	74,970	749,700
30l gallons	1000	7,680	7,680,000
Honey color grader	03	25,170	75,510
			3,533,888,960

F. Capacity building workshops

Budget item	Unit	Quantity	Unit cost	Total cost
Workshop materials	Annual	07	759,500	5,316,500
Feeding	Annual	07	455,000	3,185,000
Transportation (fuel)	Annual	07	150,000	1,050,300
Communication credit	Annual	07	50,000	350,000
Reporting	Annual	07	50,000	350,000
Facilitation fees	Annual	07	1,200,000	8,400,000
			Sub-total F	18,651,800

G. Operation and management cost**G1. Running cost**

Budget item	Unit	Quantity	Unit cost	Total cost
Fuel	Month	84	1,500,000	126,000,000
Vehicle maintenance	Month	84	800,000	67,200,000
Communication	Month	84	370,000	31,192,000
Monitoring /Evaluation	Times	30	500,000	15,000,000
Reporting	Monthly	84	200,000	16,800,000
Representation (Public rel.)	Year	07	1,000,000	7,000,000
Electricity bill	Month	84	200,000	16,800,000
Water bill	Month	84	250,000	21,000,000
				300,992,000

G2: Staff salaries (38)

Staff category	No.	Monthly salary	Annual salary	Salary project lifespan (7 years)
Director General	01	1,200,000	14,400,000	100,800,000
Project Manager	01	600,000	7,200,000	50,400,000
Secretary	02	200,000	2,400,000	16,800,000
Project accountant	01	500,000	6,000,000	42,000,000
Store accountant	01	200,000	2,400,000	16,800,000
Marketing manager	01	300,000	3,600,000	25,200,000
Production manager	01	400,000	4,800,000	33,600,000
Project officers	10	2,500,000	30,000,000	210,000,000
Factory manager	01	400,000	4,800,000	33,600,000
Laboratory technicians	02	400,000	4,800,000	33,600,000
Extraction officers	02	400,000	4,800,000	33,600,000
Packaging officers	02	350,000	4,200,000	29,400,000

Maintenance engineers	02	300,000	3,600,000	25,200,000
Drivers	07	700,000	8,400,000	58,800,000
Cleaners	02	150,000	1,800,000	12,600,000
Day/night watch	02	200,000	2,400,000	16,800,000
			Sub-total F	739,200,000

15. TOTAL PROJECT COST ESTIMATE

	Budget element	Amount (FCFA)
1.	Building and furniture	126,710,000
2.	Office equipment/electronics	45,645,000
3.	Movables	313,000,000
4.	Office supplies	20,042,000
5.	Beekeeping materials and factory equipment	3,533,888,960
6.	Capacity building	18,651,800
7.	Operation/management cost	300,992,000
8.	Staff salaries	739,200,000
	PROJECT TOTAL COST	5,098,129,760

16. PROJECT INCOME STATEMENT (CASH FLOW)

The Project income will be raised from the sales of honey, royal jelly and bee pollen. The annual income has been calculated based on the following statistics

Production figures

- Pure honey = per hive/year = 100 litres: Total hives = 1,000,000 litres
- Royal jelly = per hive/year = 700g: Total hives = 7,000,000 grams
- Pollen = per hive/year = 500g: Total hives = 5,000,000 grams

Product	Annual production	Unit price (FCFA)	Annual income (FCFA)
Pure honey*	1,000,000 litres	2,000	2,000,000,000
Royal jelly	7000 kg	200,000	1,400,000,000
Pollen	5000 kg	18,000	90,000,000
		Total	3,490,000,000

17.MECHANISMS FOR INCOME MANAGEMENT AND SUSTAINABILITY

The present project will be implemented in a participatory manner, involving all the stakeholders from conception to implementation and evaluation. Methodology indicated for the realisation of this project stresses on the participatory approach techniques. This is aimed at guaranteeing ownership and sustainability. However, the management committee put in place will ensure the effective implementation of the project and income management. Also, the frequent and close monitoring of the project will ensure that mistakes are corrected in time as not to affect the overall project output

The income so generated from the project will be distributed as follows

- 30% will be re-invested into project (pay for depreciation, extension etc)
- 30% workers salaries
- 20% into the savings account and
- 10% into educational and administrative cost

All of these measures will have a triple role: (a) efficiency, transparency in management (b) project sustainability and (c) income generation and livelihood improvement.

18.PROJECT RISKS AND RISK MITIGATION STRATEGY

Beekeeping can be labour demanding but not a high risk venture as with other livestock farming business. However, the smooth implementation and success of this project will depend on the way the various risks linked to it are handled. Apart from natural or man-made disasters other risks are linked to inadequate knowledge of the bee biology, poor apiary management, feeding, disease epidermis, inadequate monitoring and poor market of produce etc. The following measures will be taken to minimise these risks

Risk factor	Mitigating measures
Fires / pesticide spray	Intensive sensitisation and education of the surrounding population.
Disease epidemic	Training of employees on bee biology and apiary management. Constant monitoring by field technicians will ensure rapid intervention.
Inadequate monitoring	Indicators for monitoring will be set and management committee members trained on monitoring and keeping records
Poor markets	Vertical integration will be established with feed suppliers and butcher. Also, the media will be used to advertise the existence of good quality honey.

19. ANNEXES

1. Registration certificate of company
2. Plan for the processing plan
3. Cost estimate for the processing plan
4. Sample pictures (specifications) for field materials and factory equipment.

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DIFFERENT EQUIPMENT FOR BEE FARMING

5 Gallon Pail Heater



Use our Flexible Strip Heaters on a 5 gallon plastic pail to warm up your honey prior to bottling or filtering.

60 Lb Closed Top Pail



5 Gallon (60#) Container is molded from high strength translucent plastic and comes with 2 1/4" screw lid. An ideal container for long-term storage. Can be used for filling smaller jars by using a gate accessory, (sold separately below). Can be used many times and for many purposes.

Beekeeper's Hive Tool



This Beekeeper's Hive Tool is made of high quality spring steel to give a lifetime of use.

Cappings Scratcher



Cappings Scratcher, the only "uncapping tool" used by many hobby beekeepers. An excellent hand tool for opening the comb cells to let the honey out.

Clear Plastic Uncapping Tub



Three piece clear uncapping tub, drainer and lid! Uncap your frames quickly and hygienically with this food grade commercial

restaurant quality equipment. Virtually unbreakable with normal use! See the whole uncapping process as it happens in this large capacity 25"L x 18"W x 9" D uncapping tank and drainer.

[Electric Uncapping Knife](#)



The Speed King Electric Heated Knife is perfect for when you're ready to start uncapping those frames full of honey.

[Frame Grip with Manipulation Tool](#)



This handy tool, imported from Portugal, features a combination frame manipulation tool and frame grip all in one. Loosen the frame with the tool end then grip.

[Frame Holder](#)



Frame Holder, the most efficient and convenient way to hold valuable comb filled frames removed from the colony during inspection.

[Hive Carrier](#)



A convenient and easy tool to carry honey hives or supers. Lets two people transport a heavy hive with ease.

[Hive Net](#)



Our Hive Net can be used when moving bee hives from yard to yard or to keep bees inside the colony due to herbicide spraying.

[Honey Bucket & Filtration Kit](#)



Our Honey Bucket & Filtration Kit is ideal for filtering small, medium, or large particles from honey. Comes with three reusable, washable filters. 600 Micron for coarse filtering. 400 Micron for medium filtering, and 200 Micron for fine filtering. These filters are custom designed to fit securely on the 5 gallon Honey Bucket included. An excellent and inexpensive filter that will make your honey sparkle.

[Honey Color Grader](#)



The Honey Color Grader has a chart with Pfund (0-140mm). It's easy to use, all you do is fill the provided cup and use the chart to compare. There is no electricity needed. Pocket size, 2" x 8.5".

[J Hook Hive Tool](#)



Hook end is used for prying frames out of supers. Opposite end is used for scraping. Chrome plated.

[Junior Honey Extractor](#)



This two frame, hand cranked extractor is perfect for the beginning beekeeper that is ready to start extracting honey!

[Junior Honey Extractor Stand](#)



Support your Junior Honey Extractor with this sturdy metal stand.

[Plastic Coated Gloves](#)



The hand portion of this quality glove is made of plastic coated canvas which makes this glove virtually sting-proof. The sleeves of special cloth are full elbow length and have elastic in the top to fit the arm snugly. Ideal for use in the honey house.

[Section Scrapping Knife](#)



This Section Scrapping Knife is specially designed and constructed for cleaning wax and propolis from finished sections.

[Serrated Uncapping Knife](#)



This is the best “cold” uncapping knives we have found on the market today! This double sided serrated knife cuts through the wax capping very effectively. A high quality tool from Portugal.

Solar Wax Melter



Our Solar Wax Melter is the perfect answer for melting up those burr combs and small amounts of wax.

Wooden Bee Brush



Our Bee Brush has long, soft, flexible yellow bristles gentle enough for brushing bees off queen cells yet firm enough to remove bees from frames, supers, or clothes. Will not crush or injure bees.

EDOCAM AND SONS ENTERPRISE