Berenschot

**Market research for**

**SNV East and Southern Africa**

# Window of Opportunity: Income from Honey

Honey and bee products sector in Rwanda

*25 April 2008*

**FINAL REPORT**

Enabling poor rural people to overcome poverty

Berenschot has conducted this research as part of a learning programme for recently recruited junior business management consultants. This document has not been screened by English native speakers.

## Foreword

This study in Rwanda was conducted on request of SNV Netherlands Development Organisation, region East Southern Africa, as part of a regional market research on value chains. For Uganda and Tanzania the oilseed sector was explored, and this study focuses on the beekeeping sector in Rwanda. The reason for this study on the beekeeping sector in Rwanda lies in the fact that the sector was considered to offer an interesting window of opportunity for actors in the chain to enhance productivity, income and employment. SNV Rwanda wants to know what type of interventions may result in impact regarding productivity, income and employment.

The study on the beekeeping sector in Rwanda has taken place in the period February, March and April 2008, with sometimes high and sometimes low intensity. The study included three phases: desk research, fieldwork and analysis. The fieldwork in Rwanda covered one week and took place in April 2008. During the visit in Rwanda, the team has interviewed several actors in the chain and other resource persons. The assignment was completed on the 25th of April.

Berenschot has conducted this research as part of a learning programme for recently recruited junior business management consultants.

We have enjoyed doing this research. We trust that the results will help SNV Netherlands Development Organisation to make strategic decisions on their interventions in the value chain so that impact, in terms of poverty reduction, in Rwanda can be achieved.

We are very grateful to all people that have cooperated in this research in Europe, in Uganda and in Rwanda. We would especially like to thank SNV Rwanda for their hospitality and assistance during the fieldwork: Robert Nyambaka, Elie Nsabimana, Innocent Matabishi, Emmanuel Ruzibiza and Theo and Duncan Mwesige and Annette Bogere from SNV Uganda.

Finally, we would like to thank Julian Wood, SNV Director Economic Development East and Southern Africa, who has taken the initiative to come to an innovative form of cooperation from which both SNV and Berenschot can benefit.

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# List of acronyms

| Acronym | Explanation |
|---|---|
| ADAR | Assistance for Dynamisation of Agribusiness in Rwanda |
| ARDI | Association for Promotion of Integrated Development in Rwanda |
| BNR | Banque Nationale du Rwanda |
| BRD | Banque Rwandaise de Développement |
| CAPMER | Centre for Support to Small and Medium Enterprise in Rwanda |
| EU | European Union |
| IGCP | International Gorilla Conservation Project |
| FAO | Food and Agriculture Organisation |
| FLO | Fairtrade Labelling Organisations |
| MDGs | Millennium Development Goals |
| MINAGRI | Ministry of Agriculture and Animal Resources |
| MINICOM | Ministry of Commerce, Industry, Investment Promotion, Tourism and Cooperatives |
| NGOs | Non Government Organizations |
| NHC | National Honey Council |
| ORTPN | Rwanda office of Tourism and National Parks |
| PPPMER II | Projet de Promotion des Petits et Moyennes Entreprises en Milieu Rural |
| RARDA | Rwanda Animal Resources Development Authority |
| RBS | Rwanda Bureau of Standards |
| RIEPA | Rwanda Investment and Export Promotion Agency |
| SNV | Netherlands Development Organisation |

# Executive summary

Bee products that are produced worldwide are comb honey, extracted honey, chunk honey, beeswax, royal jelly, propolis and pollen. The worldwide honey market is dominated by a few large honey producing countries i.e. China and Argentina. There has not been much change in the world market in the past decades. Only Brazil has come up as one of the larger honey producers, but suffers from the yearlong ban on its honey posed by the EU, as does China. A growing honey importer (for years now) is the Middle East, with Saudi Arabia as the largest importer in the region. Germany is Europe's largest importer. Another trend is the rising demand of organic and/or fair trade honey, for which higher prices are paid. African honey is only a small part of the worldwide honey production, and is mainly focused on local and regional trade. African honey is known to be of good quality for it comes from natural forest and is produced by healthy bees. The African market, however suffers from various inefficiencies, such as a lack of coordination, knowledge and transparency, which limits its production.

Over the past years, Rwanda has made great progress. In recent years Rwanda has managed to put in place all the key institutional and legal instruments that are needed to structure Rwanda's long-term development. The Rwandan government has committed herself to reduce poverty, by improving education, agriculture and infrastructure. The economic growth in Rwanda derives mainly from the services and manufacturing sectors, while agriculture is still unstable and dependent on rainfall. The government has prioritized five value chains for development in the Rwandan Integrated Development Programme, including honey.

Rwandan bee products have a good potential, mostly because of Rwanda's excellent natural circumstances. Beekeeping is also appreciated for its efficient land use and its positive effects on the protection of the environment, gender equality and poverty reduction. Also, the demand is high and prices are high and increasing. However, the beekeeping sector suffers from negative effects on its product quality, lack of resources, coordination and business orientation. The Rwandan beekeeping sector is small and mainly focused on the local market.

A market strategy and improvement of logistics are opportunities for the sector, but threats like regional competition, cultural barriers, uncoordinated government and donor involvement and low production need to be diminished. SNV could improve its impact in the chain, when focussing on the level after production in the value chain to create a 'pull' effect instead of a 'push' mechanism. Also, a healthy value chain only consists of private actors. Concerning its role in national coordination activities it is important for SNV to guard its objectivity and to have a clear exit strategy. Other opportunities lie in stimulating business orientation and in making strategic choices: SNV should promote the ‘pull’ factor of the sector.

# Introduction

The following approach was taken to conduct this research.

**Goal**
The goal was to enable SNV to implement practical activities and actions to realise value chain improvement and (local) market development for the honey and bee products sector in Rwanda. In the end, this research was meant to help SNV to contribute to more production, income and employment for small scale producers and entrepreneurs in Rwanda.

**Research question**
How can SNV stimulate and improve the value chain and find investment opportunities for the honey and bee products sector in Rwanda?

This main question has been investigated by the following questions:

1. Who are the major sector players and how do they view the sector?
2. What are the market trends and developments in terms of prices, demand and supply, policy/regulations and investments, and key governance issues along the vertical and horizontal value chain?
3. What factors affect or determine the market trends and developments in terms of prices, demand and supply, policy/regulations and investments, and key governance issues along the vertical and horizontal value chain?
4. How do the factors in 3) above affect the growth and competitiveness?
5. What practical measures can be employed (in the short, medium and long term) in order to respond to the challenges in 4) above in order to promote growth and competitiveness?
6. What opportunities exist for private sector partnerships and investments?

**Three research phases:**
First we conducted desk research from The Netherlands concerning the global honey market, by undertaking interviews with important stakeholders, and by consulting research rapports, websites and articles. Then we went to Rwanda to interview important players in the field (for a list of the interviewees see annex 1). Afterwards we analysed our data and wrote this rapport. The project ended with a final presentation in Uganda concerning our main findings, recommendations and advise.

**This report:**
To answer the above stated questions we will firstly, give a brief description of bee products and an overview of the world market, the African market, the most recent and relevant trends and developments and various international standards. In chapter two, we will elaborate on Rwanda and its honey sector. Here we will describe the economic and political context of Rwanda, the status of the beekeeping sector in Rwanda and the most important local trends and developments. Then we will give a description of the value chain. This will be followed by a SWOT[1] analysis of the value chain. The rapport will be finalized by giving conclusions and recommendations.

[1] SWOT: Strengths Weaknesses Opportunities and Threats - analysis

# Chapter 1 The Honey and Bee products sector

According to the Codex Alimentarius the definition of honey is as follows: Honey is the unfermented, natural sweet substance produced by honeybees from the nectar of blossoms or from secretions of living parts of plants or excretions of plant-sucking insects on the living parts of plants, which honeybees collect, transform and combine with specific substances of their own, store and leave in the honey comb to ripen and mature. Honey shall not have any objectionable flavour, aroma or taint absorbed from foreign matter during its production, harvesting, processing and storage and shall not contain natural plant toxins in an amount that may constitute hazard to health. Honey vary in taste and colour according to the plants upon which the bees forage for nectar and pollen.

### 1.1 Products

Honey varies in taste and colour according to the plants upon which the bees forage for nectar and pollen. Several products result from beekeeping, honey remaining the most important one. Honey has four main applications: honey for direct consumption, honey as an ingredient in products, industrial honey and honey as a raw material. Approximately 15% of all honey is processed into other products, an estimated 85% is used for direct consumption.
In the scheme below an overview of all beekeeping products is given. All products mentioned below are not only sold as end products, but are also processed in many other products varying from honey wines, cosmetics, candles, sweets, cereals, tobacco, pharmaceutical industry and bakery products.

| | | |
|---|---|---|
| **Honeys** | | |
| | Comb Honey | Comb honey consists of chunks of honey-filled combs taken directly from the hive. Comb honey is very easy to produce and very cheap to pack and market. The price for comb honey is not as high as for other types of honey, but there is usually a ready market for this product. Therefore, comb honey is very often recommended as a product with which beginning beekeepers can start their production. |
| | Extracted Honey | Extracted honey is the liquid honey once it has been separated from the comb. Specialty products such as honey butter and whipped honey, as well as the consumer honey are made from extracted honey. |
| | Chunk Honey | Chunk honey is a combination of comb honey and extracted honey bottled together. |
| **Other products of beekeeping** | | |
| | Beeswax | Beeswax is a secondary product of beekeeping. It is taken from extracted honeycombs, old or damaged combs, stored combs and from the capping that covers the cells containing honey. The capping consists of primary wax. Beeswax is traded totally separately from other bee products, being an ingredient for a totally different market segment. Also, it is the beekeeping sector itself that consumes most of this product: the beekeeping industry uses beeswax to form wax foundation for the frames in the hive. Beeswax is also used for producing candles, cosmetics, pharmaceuticals, polishing materials and as a component of modelling waxes. Cosmetics and pharmaceuticals account for approximately 60% of total consumption |
| | Royal Jelly | Royal jelly is a substance secreted by worker bees to feed the queen. Royal jelly is being promoted as a dietary supplement. The production of Royal Jelly is expensive and labor-intensive, while the market is limited. |
| | Propolis | Propolis is a bee product that is used by the bees to strengthen their combs. Propolis is known for its antibiotic and antibacterial workings. Propolis is sold in capsules, tablets, oils, syrup and crèmes. |
| | Pollen | Pollen is feed for the bees which they collect from flowers and plants. Pollen adds important nutrients and strengthens the human resilience. Pollen is sold in grains. |

### 1.2 The world market

The world market for honey is small, every country has only three to five exporters. Honey is however consumed everywhere. The market is known for its strict quality standards, especially in Europe, but also elsewhere. The largest producer of honey is Asia, followed by Europe (Romania is the main producer in Europe) and North and Central America in terms of continents. Argentina and China are the two largest honey exporting countries in the world. Other leading developing country suppliers are Mexico, Brazil and Chile. Latin America and China mostly produce flower honey, while Europe is known for its acacia honey. The harvest on the southern hemisphere (including: Latin America, India and Africa) takes place in December/January, in Europe and China this is in May/June. It is a very speculative market, middlemen and traders determine the price.

| Exporters | Value exported in 2006, in USD thousand | Trade balance in 2006 in USD thousand | Quantity exported in 2006 | Quantity Unit | Unit value (USD/unit | Annual growth in value between 2002-2006, % | Annual growth in value between 2005-2006, % | Share in world exports, % |
|---|---|---|---|---|---|---|---|---|
| **'World** | **813,552** | **-11,098** | **426,352** | **Tons** | **1,908** | **0** | **12** | **100** |
| 'Argentina | 153,890 | 153,709 | 103,838 | Tons | 1,482 | 4 | 20 | 18.92 |
| 'China | 105,269 | 103,695 | 81,073 | Tons | 1,298 | 4 | 20 | 12.94 |
| 'Germany | 75,988 | -80,131 | 25,588 | Tons | 2,970 | 4 | -5 | 9.34 |
| 'Mexico | 48,381 | 48,365 | 25,473 | Tons | 1,899 | -12 | 52 | 5.95 |
| 'Hungary | 47,296 | 47,296 | 19,181 | Tons | 2,466 | 3 | 11 | 5.81 |
| 'Spain | 29,943 | 984 | 11,025 | Tons | 2,716 | -6 | 9 | 3.68 |
| 'Canada | 29,433 | 17,646 | 13,594 | Tons | 2,165 | -18 | 17 | 3.62 |
| 'New Zealand | 26,899 | 26,830 | 4,700 | Tons | 5,723 | 30 | 6 | 3.31 |
| 'Brazil | 23,373 | 23,330 | 14,602 | Tons | 1,601 | -8 | 23 | 2.87 |
| 'Australia | 21,654 | 17,018 | 8,856 | Tons | 2,445 | 7 | 6 | 2.66 |

### 1.3 Worldwide trends and developments

***The demand for honey is increasing…***

- The price of honey has been increasing for the past 25 years.
- There is especially a growing market for certified organic honey and fair trade honey, for which a higher price is paid. An estimate of the total market for organic honey in Europe is around 6,500 tons per year; 2% of the total honey market.

***...the main exporters are South America and China…***

- Nowadays most honey comes from South America (70,000-100,000 ton from Argentina, 25,000 from Brazil, 10,000 from Chilli, 15,000 from Uruguay, 80,000 ton from China and between 5,000 and 8,000 ton from Europe, mostly Romania).
- The Middle East has been coming up in the world market. Saudi Arabia, and Morocco are importing more and more honey (only) from Europe (not from China), especially during Ramadan. The reason they only buy European honey is because of the quality ensured by the EU-directives. Oman has showed an interest in African honey.

*...and the EU is an important but demanding importer.*

- The EU consumes approximately 22% of the world's annual honey production. Honey consumption is increasing slightly. Total EU25 consumption of honey amounted to 305 thousand tonnes in 2004. Overall, Europeans seem to prefer light, crystal free honey with a subtle taste.
- Over a period of 10 years, EU consumption increased by 1.6%. An important factor contributing to the growth of the market is the health trend in which honey has a role as a natural health product.
- Germany is Europe's largest importer, because Germans consume more honey than other Europeans. Germans do not import Chinese honey. This ban is expected to be lifted in 2008.

*Chinese honey can be problematic…*

- The problem with Chinese honey is its quality, they sometimes harvest it too early, which causes water levels of 25% and antibiotics and other residues are often found. Chinese (and African) honey is known for the extra sugar added to the honey. Chinese honey is always 10/15% cheaper than honey from other regions (at the moment the South American price is $2,20, the Chinese is $1,70).

*…weather conditions and natural circumstances also have an effect…*

- The current prices are very high because of drought in South America, bad harvest in Argentina and Mexico, the high dollar-rate, speculation and the EU-ban on Brazilian honey. The reason for this ban is the failure to agree on testing procedures and standards. Crops are also smaller because of the bee losses caused by CCD (Colony Collapse Disorder).
- Canada's position has diminished because of their modified pollen.

*...and economic growth leads to more local consumption and to less export.*

- Since honey is a luxury good, consumption tends to rise with economic development, which means that some countries stop exporting it and are using the honey for their own consumption (export prices are always lower than local prices), examples are Turkey, Russia and China. In those cases, only the extra capacity is used for export. This mechanism can differ per country.

## 1.4 Trends and developments in Africa

*Africa as a successful producer of honey*

Most African communities were practising beekeeping long before they cultivated coffee, cotton or cocoa. For generations, honey has been produced by traditional communities, using local low-cost methods to meet the local needs. It is therefore originally not a commercial product. African honey is produced using traditional hives, Langstroth hives (modern) and Kenyan top bar hives. All have their advantages and disadvantages (see 2.2). African honey is mostly tropical honey and is known to be darker, more watery (18-21%) with relatively high HMF, and it can have a 'smoky taste'. Beekeeping is often promoted as being a pro-poor income generating activity for poor communities.

*The pro-poor benefits*

The pro-poor benefits of producing honey and beekeeping are:

- Low start up costs (only little investments are needed) and no risk of debt;
- Little land and labour are needed; many farmers conduct beekeeping as a secondary activity and income next to their major production in for example coffee or tea. Even individual beekeepers can achieve significant individual production levels;
- Honey is harvested by some of the poorest and most vulnerable households living in remote places and sales of the produced honey generates income for these communities;
- Beekeeping is increasingly a gender inclusive activity; also because low-technology bee keeping can be done near the homestead and modern methods make the production easier and safer.

- The products of beekeeping are relatively easy to keep, process and transport when hygienically packed using dry buckets;
- The products of beekeeping are nutritious;
- The products (honey and beeswax) require little further processing which enables the producers to capture relatively more of the end value of the final product;
- Effective processing of honey (from traditional hives) can be achieved using simple tools such as a sieve and a bucket.
- Beekeeping has the potential to create livelihoods for several other sectors, such as trading, and manufacturing equipment for artisans;
- Apiculture can be entirely sustainable and does not compete with any other form of agriculture;
- Honey has multiple market opportunities, unlike many other commodities. If an export market collapses, people still have some chance to sell or use the honey within towns and villages at home, or create secondary products;
- Beekeeping can have a positive effect on the conservation of biodiversity (because of pollination).

***There are however some problems with the African honey…***

The problem with African honey is its price and its low level of production. The price of African honey is too high to compete with the major honey exporting countries like China and Argentina. The production systems, distribution and handling of honey in Africa are not as efficient or streamlined as in the major exporting countries. The costs of its inefficient distribution and its supply chain management mean that African honey is relatively expensive and that it can therefore only compete with the other honey producing countries if marketed as a speciality honey. Honey is produced in small volumes at household level by thousands of small and scattered beekeepers that include the poorest, and most marginalised in society and are highly disadvantaged in the market place. Poor roads, remote locations, no knowledge of the final market, lack of containers and infrequent interaction with traders make the market even more non-transparent. Also production circumstances (mostly harvesting methods, processing and transportation) do not add to the quality of the honey. Since honey is a traditional product used for subsistent agriculture and not a commercial one, there is a lack of business and management skills in the sector.

Besides that there is a lack of coordination (including insufficient traceability and lack of access to financial means and lack of information). Also several unsustainable donor interventions have done more harm than good, when certain organisations have given away free hives without appropriate training.[2]

***…but regardless of the constraints some manage quite well…***

African honey has potentially a strong position on specialty markets, mostly because of Africa's good natural crop, special plants, natural forests and healthy bees. According to a study done by Tradecraft[3], regional trends for 2005 indicate Ethiopia, Tanzania and Kenya as leading producers of honey with 41,233 tons, 28,678tons and 25,000tons respectively. Other countries include Madagascar (3,986tons), Mozambique (402tons), Uganda (327tons), Burundi (206tons), Zambia (200tons), Réunion (120tons) and Rwanda (42tons). Prices vary between countries with Tanzania having some of the lowest prices ± $0.50/Kg and Rwanda some of the highest ±$2.00/Kg. For beeswax, data has been elusive but 2003 statistics indicate countries such as Central Africa, Ethiopia, Ivory Coast and Tanzania as leading exporters from the continent. Over 2007, droughts caused low production in Tanzania, Kenya and other parts of the region as reported by most regional traders. Tanzania remains the only country with a beekeeping policy in place to regulate the sector.

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[2] Jiwa, F, Honey care Africa's tripartite model: an innovative approach to sustainable beekeeping in Kenya, Apimondia Journal, APIACTA

[3] *EU markets for African Honey*, Traidcraft

Many African honey producers are not able to meet the international standards that are needed when accessing various international or specialty markets. These standards are not only difficult to meet, but also expensive and once obtained, the bureaucracy of the monitoring can cause problems. It depends, however, which market is targeted, for the EU market is more stringent than other markets. Most of these standards are difficult to meet in the African context, since they are based on western beekeeping practises.
As a continent Africa is the fourth largest producer of honey. What honey is concerned, Zambia, Egypt and Ethiopia are the largest honey exporting countries of the COMESA. Zambia is the only FLO (Fairtrade Labelling Organisations) certified exporter to Europe on the continent. Zambia is also accredited to export to the EU market together with Tanzania, Kenya, South Africa and Uganda.

### 1.5 International regulations

Worldwide honey trade is determined by requirements set up by several markets, one of the most important being the EU. In this paragraph we will focus on the requirements for honey when importing it into the EU or worldwide as an organic or a fair-trade product.

***The requirements for honey import into the European Union are strict…***
EU-directive 2003/812/EEC exits of lists of third countries from which Member States are to authorise imports of certain products for human consumption subject to Council Directive 92/118/EEC[4]. Among these products is honey (part IX). The list of third countries that are authorised for imports of honey into the EU is included in directive 2000/159/EC (on the provisional approval of residue plans of third countries according to Council Directive 96/23/EC in which the European Community has set up plans to monitor certain substances and residues thereof in animal products in the respective Member States). In directive 97/747/EC the requirements regarding the residue plans for honey are determined. Only countries that apply these requirements are allowed to export their products into the EU.
The list of third countries that are allowed to import their products into the EU is subject to changes. Countries can be removed from the list if they do not fulfil the requirements anymore. For example, Brazil who is now banned from import into the EU, because Brazil never supplied the Commission with the requested residue monitoring plan.
Apart from the monitoring of residues in the third country the product has of course to fulfil all EU laws concerning food quality and hygiene controls. Directive 2002/178 determines all the general principles and requirements of food law. Article 11 of this directive focuses on the requirements for imported goods:

> "Food and feed imported into the Community for placing on the market within the Community shall comply with the relevant requirements of food law or conditions recognised by the Community to be at least equivalent thereto or, where a specific agreement exists between the Community and the exporting country, with requirements contained therein."

Other important articles in the directive are:
- Article 14 prohibits placing on the market of unsafe food
- Article 16 prohibits the presentation of food in such a way as to mislead consumers
- Article 18 requires food business operators to have traceability systems in place
- Article 19 lays down the responsibilities and obligations of food business operators

When a country may already be allowed to export other animal products for human consumption to the EU but is not allowed to export honey to the EU yet, it will only be necessary to adopt already implemented measures for other industries onto honey.

[4] This Directive lays down the animal health and public health requirements governing trade in and imports into the Community of products of animal origin.

***… as are the requirements set for organic food production…***

Consumers nowadays are calling for easy access to information on how their food is being produced, especially when it concerns organic food. The confidence of consumers whether their food meets organic standards is very important. It is for this reason that stringent regulation covering organic production and quality is necessary, as well as measures to prevent fraudulent claims to organic status. The EU has introduced regulations to ensure the authenticity of organic farming methods, which have evolved into a comprehensive framework for the organic production of crops and livestock and for the labelling, processing and marketing of organic products. Next to that, the regulations also govern imports of organic products into the EU from third countries.

There are two regulations: one on organic farming and its production methods (regulation 2092/91/EC) and one (regulation 1804/99/EC) on production, labelling and inspection of the most relevant animal species (i.e. cattle, sheep, goats, horses and poultry). This last regulation covers such issues as foodstuffs, disease prevention and veterinary treatments, animal welfare, husbandry practices and the management of manure. Also, this directive describes very carefully how beekeepers should produce honey according to organic standards (see annex 2) and how imports of organic agricultural products from third countries are arranged. In this last case it is necessary that these third countries work with organic production criteria and control systems that have been recognised by the EU as an equivalent.

When farmers wish to claim official recognition of their organic status, this process will take at least two years for the conversion period before sowing annual crops is allowed and three years in the case of perennials (this also counts for honey).

***…also, products sold as fair trade have to be produced according to special requirements.***

Another way of entering the market is through the fair trade label on products. Fair Trade helps to enable sustainable development and empowerment of disadvantaged producers and workers in developing countries. The price of products labelled as fair trade helps to support producers and workers in developing countries in trading their way out of poverty and gain fair access to international markets as well as fair incomes. For Fairtrade products the Fairtrade Minimum Price is determined, through which producers receive fair terms of trade and fair prices for their produce. Also, the Fairtrade labelling system helps producer organizations or worker bodies to enable them to invest in social, economic or environmental improvements.

In order to be able to sell products as fair trade, a producer or farmer needs to meet the international Fairtrade standards which are determined for 18 product categories[5]. The standards that need to be fulfilled by the honey producers are limited to a certain number of selected countries defined by Fairtrade Labelling Organizations; only producers located in these countries can apply for Fairtrade Certification. Rwanda is mentioned on this list. The standards include generic standards on social development, economic development, environmental development, labour conditions and product specific standards regarding the quality and price of the products.

Concerning the price of honey, Fairtrade focuses on keeping prices stable. Honey prices vary quite a lot while they depend on various production costs, different climate and vegetation zones, and the yield per bee colony. Before, price fluctuations resulted in negative effects for beekeepers. Fairtrade guarantees stability for honey producers through the standardized Minimum Price. This Minimum Price allows producers to cover their costs of production and contributes to more security for the bee keepers and their families.

[5] The most successful categories are: Bananas, Cocoa, Coffee, Cotton, Flowers, Fresh Fruit, Juices, Nuts and Oilseeds, Rice, Spices and Herbs, Sport balls, Sugar, Tea, Wine and Honey.

# Chapter 2 Rwanda

| Rwanda Country Profile | |
|---|---|
| Area | 26,338 sq km |
| Population | 9,907,509 |
| Capital City: | Kigali (700,000; 1,000,000 during the day) |
| Language(s): | Kinyarwanda (official) universal Bantu vernacular, French (official), English (official), Kiswahili (Swahili) used in commercial centres |
| Religion(s): | Roman Catholic 56.5%, Protestant 26%, Adventist 11.1%, Muslim 4.6%, indigenous beliefs 0.1%, none 1.7% (2001) |
| Government type: | Republic; presidential, multiparty system |
| Head of State: | President Paul Kagame (since 22 April 2000, elected December 2003) |
| Independence: | 1 July 1962 (from Belgium-administered UN trusteeship) |
| Ethnic groups: | Hutu (Bantu) 84%, Tutsi (Hamitic) 15%, Twa (Pygmy) 1% |
| Population growth: | 2.766% (2007 est.) |
| Currency: | 1 Rwandan franc = 100 centimes (exchange rate: 560 Rwandan Francs= $1) |
| Natural resources: | Gold, cassiterite (tin ore), wolframite (tungsten ore), methane, hydropower, arable land |
| Land use: | arable land: 45.56%<br>permanent crops: 10.25%<br>other: 44.19% (2005) |
| GDP per capita (PPP) | $1,000 (2007 est.) (GDP per capita = 250$) |
| GDP - real growth rate | 6% (2007 est.) |
| Export partners | China (10,3%), Germany (9,7%), US (4,3%) |
| Export commodities | Coffee, tea, hides, tin and ore |
| Import partners | Kenya (19,6%), Germany (7,9%), Uganda (6,8%) and Belgium (5,1%) |
| Import commodities | Foodstuffs, machinery and equipment, steel, petroleum products, cement and construction material |

(source: *CIA: the World Fact Book*)

### 2.1 Political and economic context of Rwanda

***Rwanda has made tremendous progress since 1994…***

Rwanda is a poor rural country, most of its labour force (79,6%) lives of (subsistent) agriculture. It is one of 20 poorest countries in the world and the most densely populated country (350 inhabitants per km²) in Africa, with few natural resources and minimal industry. Rwanda is landlocked and borders with the Democratic Republic of the Congo (DRC), Uganda, Tanzania and Burundi.

Over the past years, Rwanda has made great progress. The genocide of 1994 severely impoverished the population, particularly women, and eroded the country's ability to attract private and external investment. From 1994 onwards, Rwanda has secured peace and safety within its borders, it has established a stable government, has put in place (successful) programmes for economic reconstruction and has ended the official distinction between Hutu's and Tutsi's. In its Vision 2020 the government has formulated some very ambitious goals. In the next decade for example, the government sees the GDP quadrupling.

High population growth (between 2.7% and 3,5% per year) has a negative effect on the economy and the environment. Access to safe water sources is insufficient and drought has caused major food insecurity. According to the National Human Development Report Rwanda 2007 the country will have to tackle three major challenges, namely in the field of agriculture (to increase production), population (through an integrated approach of natural resource management) and income distribution (to tackle the unequal distribution).

In recent years Rwanda has managed to put in place all the key institutional and legal instruments that are needed to structure Rwanda's long-term development. The Rwandan government has committed herself to reduce poverty, by improving education, agriculture and infrastructure. The government is also putting emphasis on attracting foreign and domestic investment, and is pursuing market-oriented reforms. However, energy shortages, instability in neighbouring states, and lack of adequate transportation linkages to other countries hamper growth.

***… also with respect to politics…***

Rwanda seems politically relatively stable. Since July 1994 the RPF (Rwandan Patriotic Front) has been the dominant party. In 2003 the current president Paul Kagame was elected by 95% of the votes for a 7 year term, and the RPF was elected by 73,8% of the votes in the parliamentary elections. The government has made a lot of progress since 1994. However, the military involvement in neighbouring DRC is a destabilising factor. Next to that, some international NGO's are critical about the lack of political freedom, the tight control on the press, and the human right situation of Rwanda.

***…but from the economic perspective there is still a lot of progress to be made…***

Rwanda is progressing rapidly and is even one of the top performers in Africa. Economic growth has been impressive, with a growth rate of 5,8% on average per annum. Between 2001 and 2006 Rwanda's poverty rate decreased from 60,2% to 56,9% of the population, but still 600,000 more Rwandans live in poverty compared to five years ago. This means that economic growth is very unequal among the regions and the population (the Gini-coefficient for measuring economic inequality has doubled in the past 20 years, which brings Rwanda to the top 15 of most unequal countries in the world) and many challenges persist. Also, Rwanda is highly dependent on foreign aid (50% of government revenue comes from donor support).

Rwanda is a small trading country (seen from a global perspective), but grows steadily compared to other African countries. The value of Rwanda's merchandise exports was US$138 million in 2006[6]. The main destinations for Rwanda's export products are Kenya, Uganda, European Union, Tanzania and the Democratic Republic of Congo. However, Rwanda is dependent on other (neighbouring) countries for many commodities. This can be seen from the value of Rwanda's imports: US$ 501 million in 2006[7]. The main imported commodities (food products and other consumer goods) in Rwanda come from Kenya, the European Union, Uganda, the United Arab Emirates and Tanzania.[8]

Trade with neighbouring countries is organized and regulated through the COMESA, EAC and the Economic Partnership Agreement of the European Union for the ACP-countries. The establishment of the COMESA (Common Market for Eastern and Southern Africa)[9] and EAC (East African Community)[10] offer good opportunities for regional trade. The EAC aims at widening and deepening co-operation among the partner states in political, economic and social fields for their mutual benefit. To this extent a customs union is established in 2005 and the EAC is striving for a common market by 2010, a monetary union by 2012 and ultimately a political federation of the East African States.

The economic growth in Rwanda derives mainly from the services and manufacturing sectors, while agriculture is still unstable and dependent on rainfall. The government is very much aware of the fact that Rwanda is dependent on foreign investors for its growth. Therefore it tries very hard to secure an investor-friendly climate with varied opportunities for investment in tourism, export, agriculture and manufacturing. Also, Rwanda is known for the little crime and corruption,

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[6] WTO trade profile 2007

[7] WTO trade profiles

[8] Trade profiles 2007 WTO, p.139.

[9] Burundi, Comoros, D.R.Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe are members of COMESA.

[10] The East African Community is established in 1999 and entered into force on 7th July 2000 following its ratification by the original partner states Kenya, Uganda and Tanzania. The East African Community (EAC) is the regional intergovernmental organization of the Republics of Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania. The Republic of Rwanda and the Republic of Burundi acceded to the EAC Treaty on 18th June 2007 and became full members of the community with effect from 1st July 2007.

which makes the country very safe for investments. On the downside however, the land-locked position of the country and the long-term damage from the genocide makes it an expensive (logistics) and risky (infrastructure) challenge to invest in Rwanda.

***…especially agriculture needs special attention.***

The prioritised agricultural sector faces problems such as land fragmentation, over-cultivation, and decreasing agricultural productivity in combination with climate change and environmental degradation. Rwanda's main agricultural products are coffee, tea, pyrethrum, bananas, beans, sorghum, potatoes and livestock.

Through Vision 2020, the government focuses at reforms in socio-economic thematic areas with an agenda to reduce rural poverty and meeting the objectives of the Millennium Development Goals (MDGs). These reform strategies cover priority areas for high, sustainable, equitable growth and poverty reduction. The agricultural strategy of Rwanda has the objective of increasing rural incomes (Vision 2020 aims at 5 - 8% annual growth for the agricultural sector), enhancing food security, and converting agriculture into a viable sector by moving it away from subsistence to a market-based activity. The Ministry of Local Government has, together with the ministries of Agriculture, Commerce, Infrastructure and Finance, prioritised five value chains for development in the Rwandan Integrated Development Programme, all aimed at contributing towards realizing Vision 2020. These five value chains are Milk, Beef, Fish, Hides & Skins and Honey.

## 2.2 Beekeeping in Rwanda

Honey is one of the priority sectors of the Rwandan Integrated Development Programme, as stated above. The government put in place the Rwandan Animal Resource Development Authority (RARDA) to coordinate all efforts. RARDA is also the agency for the national beekeeping programme under the Ministry of Agriculture and Animal Resources. RARDA has submitted a National Beekeeping Strategic Plan and is currently recruiting a desk officer to focus solely on honey and bee products.

***Rwandan honey has potential…***

Rwanda produces mostly honey, beeswax and propolis. Rwandan bee products have a good potential, mostly because of Rwanda's excellent natural circumstances. Rwanda has healthy wild bees, that are resistant to diseases. The natural forests, with wild plant resources, provide a honey made of special pesticide-free vegetation and the vast amount of eucalyptus trees also produces a special and popular type of honey. Many families use honey as a medicine, which increases the demand. The supply can not reach the demand, which means that sometimes honey is even imported from neighbouring countries. This can have negative effects on the quality of the honey, since Rwandan honey is then mixed with qualitatively poor honey from abroad. Rwandan honey can be easily produced according to 'organic' rules, but the sector suffers from the same constraints as other African countries in obtaining the official certification (see above).

***...the sector is small in Rwanda…***

The sector is relatively small in Rwanda, compared to countries like Ethiopia, Kenya, Zambia and Tanzania that have larger honey industries. It is unclear how many beekeepers are active in Rwanda, because producers are organised in a bewildering variety of structures, large and small, which are involved with various NGO's. In 2005 researchers estimated that there were around 100 beekeeping groups, with in total 1,500 members, around the Nyungwe forest, where some of Rwanda's best honey is produced. Beekeepers are recently encouraged to unite and cooperate in cooperatives. Most beekeepers in Rwanda use traditional skills and local equipment. These methods are believed to be more than 2000 years old; some believe that beekeeping started in this region 5,000 years ago.

***… but is strong because of its bees…***

The honeybees in Rwanda are 'wild' bees of the Apis mellifera family, the races that live in Rwanda are called the Apis Mellifera scutellata, the Apis mellifera adansonii and the Apis Mellifera monticola. Unlike European bees they move elsewhere when conditions worsen. It is therefore common for a beekeeper to have a number of hives, that are not all occupied by bee colonies at the same time.

Rwanda has a healthy indigenous stock of honeybees that are free of bee diseases that occur elsewhere. The natural forest is believed to be the most productive habitat for the production of honey, for it provides good forage, nesting possibilities for bees, and materials to make hives. Honey is collected twice a year.

***…and there are various options for production.***

There are three types of hives to be found in Rwanda, the traditional log hive, the top bar hive and the modern frame hives (Langstroth). The traditional hives, are made from hollow logs or baskets with cylinders coated in dried mud. Beekeepers also use banana leaves, palm, grasses, sticks, woven bamboo and lantana. They mostly hang up in trees, but are sometimes put on the ground. When harvesting the bees are smoked out of their hive. The combs are then taken out and turned upside down on a bucket covered with a tablecloth, which is left in the sun. Through the cloth the honey gets filtered and is collected in the bucket. These hives are totally emptied, which means they also produce beeswax and other products, but are not sustainable.

Modern low-technology hives, top bar hives are nowadays rare in Rwanda. These hives have been introduced in an attempt to use equipment that is appropriate to the resources of rural people. They also allow beekeepers to produce in an environmentally acceptable way. After introduction, the technical follow up support was lacking to ensure their sustainable use. Which means they are now hardly used in Rwanda, even though they are popular in neighbouring countries.

Modern hives, or frame hives, (also referred to as Langstroth hives) are used in industrialised countries. Here the bees are housed in rectangular boxes with frames. When harvesting the removable frames are being emptied of honey (not the comb), which means the bees do not have to build fresh comb. These hives can therefore produce a lot more honey than traditional hives, but do not produce beeswax (for this is left in the frames). These hives are however designed for domesticated bee colonies, not for wild migratory bees. Rwandan beekeepers find it sometimes more difficult to attract bees to their modern hives than to their traditional hives, and even move them from one to the other. Modern hives require materials such as wire, nails and foundation and the boxes need to fit together precisely. Nevertheless, once successfully managed, these hives produce up to six times the amount of a traditional hive and are therefore interesting when moving from subsistent agriculture to a profit making sector. It is not surprising that more and more beekeepers are using the two methods at the same time, to get the best of both.

| Modern hives (Langstroth) | Traditional hives |
|---|---|
| Higher production (45-50 kg / year) | Lower production (8-13 kg per year) |
| Easier to inspect | More difficult to inspect |
| More expensive to buy (around 30$US) and maintain | Low costs to make or buy (1,000 FRW) and maintain |
| Produces mostly honey | Produces more than just honey |
| Easier for women to participate | Difficult for women to participate |
| Harder to get bees into | Easier to get bees into |
| Lack of modern knowledge | Old knowledge |
| Less labour intensive | Labour intensive |
| Modern equipment needed for extracting | Traditional equipment |
| Made of modern material | Made of natural material |
| Easier manipulation of bee colonies | Very difficult to manipulate colony |

*A comparison of the two most important hives used in Rwanda

### 2.3 Trends and developments

***Beekeeping in Rwanda is changing…***

Beekeeping in Rwanda is a traditional mode of agriculture that has been practised for many years through successive generations and inherited patterns. Especially many elderly people have practiced beekeeping with only having a little number of (traditional) hives next to their primary agricultural activities. Traditional beekeeping is of a non commercial nature, honey is used as a food product, medicine and for brewing traditional liquor.

With the introduction of modern hives, beekeeping is increasingly integrated into the cash economy. It has become a gender friendly activity, which resulted in an increasing participation of women in the sector. An increasing number of women are participating in beekeeping, since the introduction of the modern hives (they are easier to work with), and the availability of protective clothing. In the past few years, many local and international development organisations and donors have been involved in supporting beekeeping activities in Rwanda, but in spite of these attempts, the sector still faces many challenges.

***…because of its great potential.***

The natural circumstances for beekeeping in Rwanda are very good. Next to that, beekeeping occupies little land, protects the environment (especially the national parks), is pro poor and pro gender. Also, the quality of Rwandan honey is very good, the demand for honey is high and increasing and so are the honey prices. It is for these reasons that the Rwandan government has acknowledged the potential of beekeeping in Rwanda and has developed a national strategy to promote beekeeping in Rwanda.

***The Rwandan government considers beekeeping a priority sector…***

The Ministry of Agriculture and its implementing agency RARDA have submitted the 'National Beekeeping Strategic Plan, which is in line with the Vision 2020. The strategy describes the road map to development of the beekeeping sector. Emphasis is put on the development of key components of the value chain, capacity building on the production level next to business orientation and coordination on all levels. This will include[11]:

- Creation of a beekeeping coordination office through MINAGRI/RARDA;
- Organising apexes at district and sector levels within the beekeeping value chain;
- Producers will be strengthened into well organized cooperatives to increase production;
- Business linkages with private sector buyers will be forged;
- Partnerships with service providers to provide capacity building e.g. training and institutional management;
- Partnerships with financial institutions to provide credit and loan products;
- Market development to guarantee absorption of products into the domestic and export markets;
- Traceability process will be institutionalised for quality control purposes;
- Dissemination of information to sub-sector stakeholders on financial and market opportunities;
- Database developed - inventory of service providers will be compiled.

Before starting implementing there is an orientation phase, in which the government still finds itself today. RARDA is currently recruiting a honey desk officer.

***… and is now involved in promoting cooperatives and introducing quality standards.***

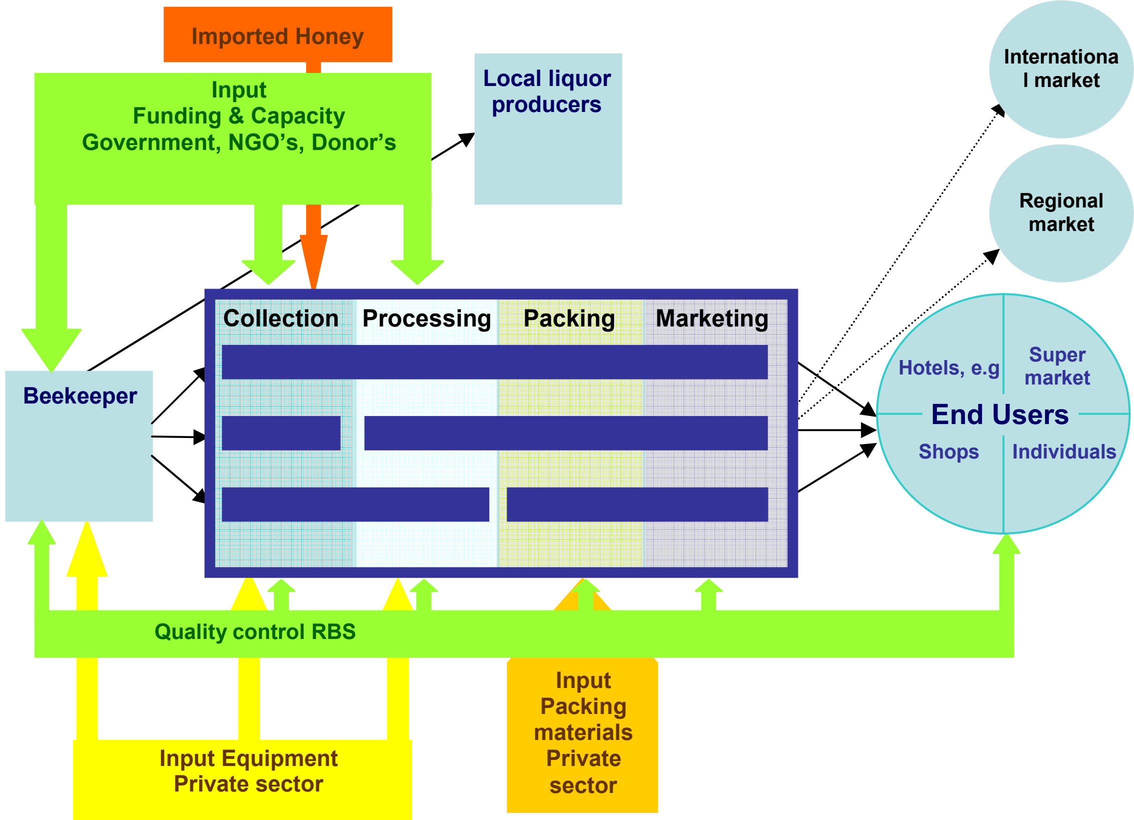
In line with the overall government policy to promote cooperatives in the agriculture sector, the Rwandan governments also supports the creation of cooperatives in the beekeeping sector. The rationale being to share responsibilities for production, to trust your neighbours again after what has happened during the genocide and to unlock money for investments in the sector. Cooperatives in the beekeeping sector receive honey from several (member) farmers in their

[11] The National Beekeeping Strategic Plan 2007-2013, RARDA

collection centres. With these large amounts of honey it is easier to control the quality of the honey and sell the product for better prices.
Next to the promotion of cooperatives, the Rwandan government is also involved in the formulation of quality standards for all honey produced in Rwanda, for honey is a food product that needs to be controlled in order to guarantee food safety on the Rwandan market. This is coordinated and implemented by the Rwandan Bureau of Standards (RBS). RBS has set the standards for honey and has recently started inspections of beekeeping practices. The standards used by RBS are based on the strict EU standards. When beekeepers are not respecting the standards, they are asked to change their methods. When contaminated or wrongly produced honey is found on the market during a market surveillance, it is taken off the market and the beekeeper risks a fine. Beekeepers can also apply for a RBS certificate, which shows their practice has been approved, but until now, no beekeeper has applied for one. The RBS certificate costs 5 million RFR. RBS is challenged by low capacity to enforce these standards, to conduct the inspections, and to raise beekeepers awareness of its existence.

***The (international) demand for honey is high and growing, the supply is insufficient…***
The worldwide demand for honey is higher than its supply. Many honey producing countries need imports to meet the demand for honey. This is also the case in Rwanda; for the supply does not meet the demand, Rwanda imports honey mainly from its neighbouring countries. Next to that, the neighbouring countries also import Rwandan honey informally.
Other demands for Rwandan honey have recently come from the Middle East (Qatar and Oman) and France, but the exports have been somewhat problematic due to misunderstandings, tight contracts and insufficient supply. The European market is for most Rwandan producers problematic because of the strict (quality) restrictions posed by the EU.

# Chapter 3 The Value Chain




***The value chain for the beekeeping sector***

The value chain for honey is spread over several levels. On the national level, mainly the government (including its institutions), NGO's and other donors are involved. Next to that, there are some companies active on the national level, and of course the market is on the national level. On the district level the main actors are cooperatives, collection centres, processors and entrepreneurs, followed by the beekeepers on the cell level. Transport is done throughout the whole value chain, it is however difficult in the first part of the chain, because of logistic and geographical challenges. To begin with the very first actor in the value chain: the beekeeper on cell level:

***Actors on cell level…***

**Beekeepers**

Beekeepers produce the honey using traditional or modern hives. Most beekeepers are farmers that exercise their beekeeping activities next to their other farming activities because beekeeping does not take a lot of land nor labour. Beekeepers are traditionally the somewhat older farmers, but this is changing in favour of young and/or female farmers. In Rwanda there is a concentration of beekeepers around the natural forests because of the good natural circumstances in these areas for beekeeping. Beekeepers maintain the hives and harvest the honey. The harvested honey is put in jerry cans and transported by foot or by bike (only sometimes by car) to collection centres that are very often owned by the cooperative the beekeeper is a member of. The transport is done by the beekeepers themselves or picked up by technicians from the collection centres.

**Associations**
Associations are structures in which beekeepers are organised. Now that the national government of Rwanda is focused on the creation of cooperatives, many associations are included in the cooperatives and do no longer function as individual entities.

***… are followed by the actors on district level…***
**Cooperatives**
As mentioned above, the national government of Rwanda focuses on the construction of cooperatives in the agricultural sector. Very recently, a law is ratified in parliament to enforce these cooperatives. Cooperatives have a membership structure and represent all their beekeeping members on the district and sometimes national level. In such a structure it can be easier to obtain financial means for equipment. Very often, cooperatives also include collection activities, processing activities, packing and marketing activities.

**Collection centres**
Collection centres are satellites where honey from the beekeepers is collected. These larger amounts are easier to sell and the beekeepers receives direct money for its product. Collection centres are sometimes owned by cooperatives. Many collection centres conduct more activities than simply collecting the honey: in many cases they also process and sometimes even pack and market the honey they have received. The national government is pushing the establishment of more (satellite) collection centres in order to overcome the problems of logistics.

**Informal traders / middlemen**
Also present in the value chain, are informal traders and middlemen. They can simply collect the honey from the beekeeper, pay direct cash and bring it to the collector or, they can have their own stock of honey, which they process, pack and market. Since these traders are informal, they are difficult to trace. Their influence can be negative, for they can take advantage of the weak negotiating position of beekeepers. The government tries to, therefore, limit their role.

***And the chain closes with the actors on the national level…***
**Private sector**
The private sector in the honey value chain is regional oriented for the collection of honey, but sells its products on all levels, varying from cell, district, national and sometimes even the regional and international level. The companies involved in the value chain conduct most activities after harvesting; they collect, or buy from collection centres. They process, or buy from collection centres that have already done the processing. And they pack and label, or buy packed honey from the collection centres that have collected, processed and packed. In the last case, the company only labels the product. In all cases, the company is responsible for the marketing of the product. The most important companies in the value chain for honey are:

*CESAPI*
CESAPI is the private sector arm of ARDI that buys, processes, packs, markets and sells honey. CESAPI is in the process of being separated from ARDI. Once CESAPI is separated from the NGO and a fully private organisation, CESAPI also belongs to this group of companies on national level.

*Shema Fruits (Butare)*
Shema Fruits is a private sector company, involved with the promotion of the agricultural sector in Rwanda. Shema Fruits has always been focused on the processing and value addition of fruits. They make juices, jams and compotes. Since 1999 they also sell honey. Shema Fruits collects, processes, packs, labels and markets the honey that they collect from cooperatives and individual beekeepers. For the demand is bigger than the supply, Shema Fruits is forced to import honey from Burundi, Uganda and Tanzania. In 2007 they sold 18 tonnes of honey. Shema Fruits sells its honey on the national level. Their main buyers are: universities, hotels, supermarkets and

boutiques (alimentation). They have even exported their honey to France (at the time as certified organic honey, with the assistance of USAID) and to Oman.

*MIG – Multisector investment Group*
MIG arranges honey collection, processing and packaging. They buy the honey from different 'cooperatives'. MIG is situated in the Nyungwe Forest region, but buys from beekeepers in approximately 5 districts. MIG is involved in capacity building, the organisation of cooperatives and the commercialisation of these cooperatives. For example, they try to set up collection centres under the cooperatives and contract these cooperatives. These collection centres are funded by donors, by the development budget of MIG and the government, but are owned by the cooperatives, the beekeepers are shareholders. MIG sells its honey to supermarkets, alimentation, hotels and individuals, but does not export any honey. MIG is still in the start up phase, but expects 80 tonnes of honey this year from 5 regions.

*Sina Gerard (Nyirangarama)*
Sina Gerard is the proprietor of Urwibutso Nyirangarama, a renowned investor in soft drinks and confectionaries and aims at rural development and profit making. Sina Gerard owns a restaurant, 5 shops, a school and a factory. He processes passion fruits, strawberries, pineapples, bananas and honey. Sina Gerard is involved in the whole chain: he possesses land where beekeepers have their hives, he collects the honey, processes it and packs, labels and markets it. He collects honeys from his own beekeepers, from cooperatives and individuals, but is not responsible for the transport from the hive to his collection centre. Sina Gerard exports his products to Europe and USA, except for the honey. He sells 100 to 150 tonnes a year.

**End users**
Most companies sell their products locally and nationally to hotels, supermarkets, universities, alimentation and individuals. Nutrition centres are also mentioned as buyers. There is hardly any export, but the Middle East and France have incidentally received some Rwandan honey.

**Institutional environment**
Non-governmental institutions have been involved in the chain for years.

**NGO's**
NGO's and donors (sometimes through NGO's) have been involved in the beekeeping sector for a long time. They mainly support the chain on district level by equipping beekeepers and collection centres.

*ARDI - Association of Rwandaise Pour la Promotion du development Intergre*
The Association of Rwandaise Pour la Promotion du development Intergre (ARDI) is one of the oldest NGO's in Rwanda, established in 1983. ARDI tries to improve the income position of people in the poor rural parts of Rwanda. ARDI's objective is to promote and consolidate rural development groups, by providing them with material, financial and organisational support. ARDI builds networks of farmers (mainly cooperatives) and (satellite) collection centres and stimulates them to practise beekeeping next to their farming activities to generate additional income and to make sure they stay put. Also, ARDI promotes modern bee farming and sells modern bee hives at subsidised prices to member associations across the country. ARDI member associations are found in four zones; Cyangugu, Gikongoro, Butare and Gitarama. ARDI has another integrated part (CESAPI) that collects, processes and sells honey. They are trying to separate CESAPI from the NGO, to make it a fully private organisation.

**National Government**
The national government of Rwanda is getting more and more involved in the value chain. The most important and involved actors in the government are:

*MINICOM - Ministry of Commerce, Industry, Investment Promotion, Tourism and Cooperatives*
The mission of MINICOM is to facilitate the transformation of Rwanda to a middle income economy by providing the strategic, policy, legal and financial framework for rapid economic

growth. MINICOM strives to facilitate and promote the development of a dynamic, competitive private sector through the formulation of enabling policies, strategies, laws, regulations and innovative incentives. MINICOM supports the central policy of the Rwandan Government on decentralisation and the creation of cooperatives in agriculture (incl. honey). RIEPA, ORNT and RBS are all institutions responsible for policy implementation under MINICOM. CAPMER and PPPMER are projects belonging to MINICOM.

*RARDA – Rwanda Animal Resource Development Authority*
Rwanda Animal Resources Development Authority (RARDA) is established by the Ministry of Agriculture (MINAGRI) in 2007 to contribute towards the growth of animal production through the development and modernisation of the sector in order to transform the Rwandan agriculture into a productive high value, market oriented sector that is environmentally friendly and has an impact on other parts of the economy. Therefore, the policy of the ministry is to increase animal production, modernise farming, reduce poverty, ensure food security and have surplus for the market. RARDA has formulated a national strategy on beekeeping with annual joint action plans for the taskforce (RARDA, CAPMER, SNV and ARDI). The national strategy focuses on mapping the sector, providing equipment, establishing demonstration centres and collection centres and providing training.

*RIEPA – Rwanda Investment and Export Promotion Agency*
RIEPA was established in 1998 by the Ministry of Commerce (MINICOM) to ensure that domestic and foreign investments in Rwanda would increase. RIEPA’s focus is on investment and on the promotion of exports. RIEPA helps to avoid export constraints (e.g. by helping companies to obtain the necessary quality certifications), provides training, organises trade fairs and trade missions at home and abroad,  and conducts market research. RIEPA advises the government on national policies and programmes designed to enhance the investment climate in the country. RIEPA is an institution under the Ministry of Commerce and has tried to support the honey exports to the Middle East.

*CAPMER – Centre for support to small and medium enterprises in Rwanda*
CAPMER started its activities in October 2000 as one of the components of the Rwanda Integrated Programme for Industrial Development, the joint project of MINICOM and UNIDO. CAPMER promotes Small and Medium-Sized Enterprises (SMEs) in Rwanda through various Business Development Services (BDS) such as assistance, support, training and facilitation. Priority intervention areas are: agribusiness, industry, hotel and tourism, craft industry, geared towards exports and ICT. CAPMER is involved in beekeeping as one of the members of RARDA’s taskforce.

*PPPMER – Centre for support to rural small and micro enterprises in Rwanda*
PPPMER started its activities in 2003 as a project of MINICOM and IFAD. PPPMER provides direct support to rural small and micro enterprises in Rwanda through trainings, investments, equipment and expositions. Beekeeping is one of their priority sectors in which they try to train beekeepers on the use of modern hives and help cooperatives to become collection centres.

*BNR – Banque National de Rwanda*
BNR, being the government treasurer, is responsible for monetary policy, banking supervision, and exchange rate policy and has the mission to develop the financial market in Rwanda. BNR gives out guarantee funds for the agricultural and education sector to various microfinance institutes, the Development Bank and donors on behalf of the government. These funds are also available for the honey and bee products sector. BNR is an economic advisor for the government.

*RBS – Rwanda Bureau of Standards*
RBS is responsible for food safety in Rwanda and has the mandate to inspect all products on the market, including honey. Inspection is done through the whole chain. When the quality does not meet the parameters, the product will be taken of the market, until it does. The parameters (water and sugar level, HMF, pollen, metals, ash, moisture, density and acid) are defined according to international standards and are applicable to all honey production.

# Chapter 4 SWOT-analysis

***The Rwandan beekeeping value chain can be characterized by the following strengths…***

- **The potential of honey**
  Rwandan honey is known for its good quality which is caused by the good natural circumstances of Rwanda: the natural forests in Rwanda increase the production and the special plants add to the quality of the honey. Next to that, the price of honey is high and increasing and the supply does not meet the demand. This is related to the fact that honey in Rwanda is a local product: honey is seen as a medicine which means that every family has some honey in stock, and honey is used for the production of local beer. Also, besides honey, more products are being produced in Rwanda (candles, wax etc.). Honey is very easily done next to other kinds of agribusinesses.
- **Beekeeping as a priority sector**
  Government and donors are willing to develop the sector because of its potential, the efficient land use and because of the positive effects the beekeeping sector has on the protection of the environment, gender equality and poverty reduction.

***However, the beekeeping sector also has its weaknesses…***

- **The quality of honey is affected by several elements.**
  The most important ones being:
  - The hygroscopic characteristic of honey makes honey very vulnerable. For example, paint used for equipments and fuels during transport can affect the taste, smell and quality of honey;
  - During transport honey warms up. This heating of honey causes a higher HMF, which affects the quality of the honey;
  - The use of pesticides;
  - Lack of modern technology and knowledge on harvesting, post-harvesting handling, processing and packaging;
  - The climate affects the production. Drought, for example, negatively affects the honey production, for plants that normally stimulate the production die in periods of drought.
- **Lack of resources and capacity**
  The lack of resources and capacity in Rwanda directly affects the production. For example, not enough means of production are available, as are packaging material like glass pots. Also knowledge on production, harvesting and post-harvesting handling is a problem in Rwanda. Next to that, financial means are needed to buy equipment and to be capable of buying honey from producers. These financial means are available, it is the unlocking of the finances that gives most problems. To conclude, also the poor logistics (lack of proper means of transport) and poor infrastructure in Rwanda are resources that are lacking.
- **Lack of business orientation**
  The Rwandan beekeeping sector can only develop itself when the business orientation of the chain is improved. However, at the moment the sector misses management and marketing skills and activities. Also, the Rwandan beekeeping sector is not competitive, caused by – among other things – a lack of ownership. Al these elements should be improved in order to make the sector more business oriented. The interference from governments and donors however, could cause market disturbances and could therefore affect the development towards a business orientated honey value chain.
- **Lack of coordination and transparency in the value chain**
  The Rwandan honey value chain is very active and in development, but still misses two very essential characteristics of a good functioning chain: transparency and coordination. The activities undertaken in the chain are not coordinated, actors are not aware of the organisation within the chain, of their responsibilities, their impact and the opportunities they have within the chain. There is also a lack of information sharing which causes a non-

transparent chain. Many opportunities are not exploited because of this lack of knowledge on the chain.

***…but the opportunities are widespread…***

- **Political climate adds to the opportunities**
  Rwanda has a good political climate for beekeeping: the national government has acknowledged the potential of beekeeping in 2007 with the definition of a national strategy on beekeeping. This strategy focuses on the creation and implementation of a better organised and coordinated chain with more production at a better quality. To reach this goal, the government has made funds available for the sector. Next to that, many donors also focus on beekeeping.
- **A market strategy**
  Rwandan honey has a lot of potential, but the problem is that many companies do not choose a strategy for a certain market. There are many market options and the prices paid for honey are high and increasing on all (local, regional and international) markets, but it is impossible to penetrate all possible markets at the same time. The opportunity lies in the choice for a certain market.
  There are good possibilities for Rwandan honey on the local and regional market when we look at the demand and price paid for honey. Especially the East African Community offers good opportunities: Rwanda can learn from the other members, do more business, profit from transport advantages and cooperate with the neighbouring countries (for example by the realisation of regional Collection Centres).
  Concerning the international markets the best possible option is finding a niche market – since the prices of Rwandan honey are too high to compete with other countries on the international market for regular honey. Possible niche markets are the (EU) organic market and the fair-trade market, which both have positive side effects for the beekeepers' income. Also, the quality of Rwandan honey suits niche markets very well and the demand for organic and fair-trade products is high and increasing as are the prices paid for these products. Other possible international markets are the Middle East and the USA because of their easier market access compared to the EU-market. RIEPA can play a role in finding interesting markets.
  However, most important is that a choice is made for a certain market and that the marketing strategy is adjusted to this market and its restrictions in terms of packaging, labelling and branding.
- **Better logistics will offer new opportunities**

***… when threats are diminished.***

- **The attention for and the national strategy on beekeeping**
  The national strategy could make the government's involvement and control in the chain too big, which causes market distortion. Also donor dependence could add to this. Another threat in this context is the range of different interests and goals of all actors that are involved in the implementation of the national strategy, as well as the representation of these actors in the chain during the implementation.
- **Regional competitors (ESA: Tanzania & Zanzibar, Kenya) threaten Rwanda's potential**
- **The responsibility for quality control is situated at the most vulnerable level**
- **Quality control is not differentiated to the various markets and their production, but is strict and enforced on all honey production**
- **Production stays low and demand remains high**
  Production stays low when too little resources are available. This could be caused by the lack of linkage between producers and financial or private institutions, by communication and coordination problems within the chain, or by migrating bee colonies when little food is available. Also, production stays low when the chain is based on a 'push' mechanism instead of a 'pull' mechanism. The little competition (small number of companies and too many

monopoles) in the current situation can cause the focus on a ‘push’ mechanism instead of on a ‘pull’ mechanism.

- **Cultural barriers can threaten the involvement of women and young people**

# Chapter 5 Conclusions and Recommendations

## 5.1 Conclusions

***Honey has potential...***

The beekeeping sector in Rwanda has a lot of potential. Not only are the circumstances for beekeeping excellent and is the market for Rwandan honey good, beekeeping also has some very positive side effects on the Rwandan society and economy.

Concerning the good circumstances for beekeeping there are a few things to mention. First, Rwandan bees are healthy and resistant to diseases. Second, Rwanda has some natural forests where no pesticides are used and special plants live. All these circumstances have resulted in the very good quality of Rwandan honey. Besides, the demand exceeds the supply and the prices paid for honey are very high and still increasing.

As said, beekeeping has very positive side-effects on the landscape, society and economy. Beekeeping is easily done next to other practises of agriculture because it does not occupy a lot of land. For a very densely populated country like Rwanda this is very interesting in terms of efficient land use. Also, beekeeping is applicable as a way to protect the environment, especially around the national parks. For beekeeping is getting more and more easy when using modern hives and the right equipment, women and young people increasingly participate in the beekeeping sector. At last, beekeeping is a pro-poor activity, because little equipment, little land and little labour is needed, while the price paid for honey is high. It is for al these reasons that the Rwandan government policy on agriculture is focused on the beekeeping sector as one of the priority sectors.

***…but the sector is still in a start-up or recovery phase***

In spite of the potential and the attention given to the sector, the beekeeping sector in Rwanda is not fully grown: it finds itself in a phase of start-up and recovery. The production is little, the number of actors is small, coordination and transparency in the chain is just starting, there is a lack of business attitude amongst most actors, there is no enforcement of quality standards and financial means still need to be unlocked.

***Opportunities lie in improving the business orientation***

The beekeeping sector in Rwanda has many opportunities, but most is to be gained on the business orientation of the sector; to make the chain more competitive. Elements like coordination, transparency and competition need to be consolidated in order to make this possible.

In fact, a transition from subsistence level to a commercial sector is most needed to make the sector more mature. Next to that the sector has many opportunities when it becomes more commercial: other markets are to be entered, quality can be improved and production can be increased. At the moment, the sector is very small, there is little competition among the actors, commercial and non-commercial activities are both practised in the chain at the same time and no-one makes a clear choice to focus on certain priority markets.

Elements that could help improve the business orientation of the chain include transparency, transport and marketing. There is a lot to gain, while there is only little subsistent activity concerning these elements.

***National and international involvement from governments, NGO's and donors***

The national government of Rwanda has very recently formulated a strategy on beekeeping in which she expresses her willingness to invest in this new priority sector. The strategy includes investments, capacity building, the establishment of a National Honey Council and the formulation of honey standards.

Before, only some NGO's and other donors were involved in the beekeeping sector. The attention for the beekeeping sector from the national level helps to address the improvements that need to be made. However, the commitment of the government, NGO's and other donors need to be formulated and implemented carefully. It needs to be done in such a way that it is sustainable, that a 'pull' mechanism is used instead of a 'push' mechanism and that it does not cause any market distortion. Especially for NGO's, their support to actions in the chain need to be of temporary nature, with a clear exit strategy.

### 5.2 Recommendations

For SNV to contribute to the improvement of this value chain, we first of all, propose SNV to keep the strengths in mind, to focus on the opportunities, to anticipate the threats and to solve the weaknesses. What is needed is a sustainable intervention with financial means and knowledge into a certain segment of the value chain. The question is where and how?

***Production needs to be stimulated…***

To profit from the potential of the beekeeping sector in Rwanda, the production needs to be increased. Production can be stimulated in numerous ways, but to increase production in a sustainable manner the focus should shift from the current 'push' to a 'pull' mechanism. This means that beekeepers should not be 'pushed' into producing more, but 'pulled' into increasing their production by commercial incentives. Intervention should therefore not be concentrated on the beekeepers (production) level of the value chain, but on the next segment, the segment where collecting, processing, packaging and marketing takes place. By strengthening and intervening in this part of the chain, these actors will actively search for honey, which stimulates transparency of the market and encourages beekeepers to produce more, since they trust their honey will be sold.

***…but a healthy value chain only consists of private actors***

Eventually a value chain should solely exist out of commercial actors to make it a fruitful, strong and sustainable value chain. There is, however, a need to create an appropriate climate, which means that some facilities, regulations and coordination mechanisms should be put in place. The Rwandan government is facilitating this process by implementing its National Beekeeping Strategy Plan and by undertaking other initiatives. Also many donors and NGO's are willing to contribute to the sector. The government can have a valuable role in encouraging the sector by providing guaranteed funds and market information. It can also play a role in stimulating RIEPA and in facilitating the possibilities EAC has to offer.

Too much involvement of these actors within the value chain, regardless of their good intentions, can, however, lead to market distortion. There is, for instance, a risk of taking away commercial incentives by donating free material or undertaking other favourable measures. There is also a risk of creating inequality between actors, when not all are assisted to the same extent. This can lead to the creation of artificial markets that possibly collapse once assistance is pulled back.

Also regulations can have a reverse effect when they do not match the situation on the market. Rwandan quality standards are based on stringent EU Standards. For the government to impose these standards on the local market seems to miss its objective. These standards can be helpful when targeting the EU market for export, but it is not necessary and much to difficult for a local beekeeper to meet these standards. It is therefore recommended to diversify the standards and link them to the relevant markets. When a producer is selling its honey on the local market it will have to meet standards that are reasonable for that market, when producing for a certain niche market it will be subject to different specific standards etc.

SNV has played a valuable role in agenda setting regarding apiculture and in shaping the policies. For SNV it is important to guard its objectivity and to have a clear exit strategy, for they should not be continuously involved on this level, in order to have an added value to the sector.

***Opportunities lie in stimulating business orientation and in making strategic choices…***

As stated above, the opportunities lie in promoting business orientation in the sector and in making the sector more competitive. To shift the sector from subsistent agriculture to a commercial one, coordination, transparency and competition need to be strengthened. This will lead to increased employment, production and revenue in the sector.

SNV's added value lies in stimulating the business orientation of the beekeeping sector. Opportunities can be found in intervening in transport and marketing activities. SNV, with its current capacity, can support actors on the collection/processing/packaging/marketing level of the value chain, with e.g. writing business plans to set up commercial enterprises, assisting with marketing strategies and transport projects, etc. These enterprises can then act as 'pull' mechanisms for beekeepers. When entering this phase it is important to make a clear and strategic choice on which market to target, for different strategies and production methods are needed to penetrate the various possible markets.

***…in which SNV can play a crucial role***

SNV finds itself in a very privileged position within the beekeeping sector. It is a major player in the agenda setting, has a sector wide network, and is highly appreciated and well known throughout the sector and on all levels. SNV needs to pull back carefully from the national coordinating level and focus on advising companies in the second segment of the chain, as stated above. The business knowledge and experience of SNV advisors can be very valuable for their private sector clients and they can assist in the decision making process. Most importantly, SNV should promote the 'pull' factor of the sector.

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| Agrictultural Research Grant | Fairtrade Netherlands |
| Netherlands Embassy in Kigali | Fairtrade international |
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| CIA | Max Havelaar |
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| IS online | EVD |
| African Development Bank | CBI |
| Agrictultural Research Grant | RIEPA |
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| Bees for Development | De Traay |
| CIA | EFTA |
| COFTA | Fairtrade Labelling Organisations |
| De Traay | Fairtrade Netherlands |
| EFTA | Fairtrade international |
| Fairtrade Labelling Organisations | IFAT |
| Bees for Development | IMF Rwanda country profile |
| CIA | Max Havelaar |
| COFTA | Netherlands Ministery of Economic Affairs |
| EVD | |

# Annexes

### Annex 1: Interviewees

| Interviewed Organsiations Europe - Februari, March and April 2008 | |
|---|---|
| **Company** | **Contactperson** |
| De Traay, Lelystad, The Netherlands | Wouter Vuyk |
| Tradin, Amsterdam, The Netherlands | Wouter Floot |
| Bees for Development, Monmouth, United Kingdom | Nicola Bradbear |
| Tropical Forest, Ablerystwyth, United Kingdom | David Wainwright |
| Ministry of Economic Affairs, The Hague, The Netherlands | Thera van Summeren |
| Agency for International Business and Cooperation (EVD), The Hague, The Netherlands | Remko Triezenberg |
| Embassy of the Netherlands in Kigali | Ben Rutten |

| Other companies we had contact with in Europe - February, March and April 2008 |
|---|
| **Company** |
| Max Havelaar |
| Centre for the Promotion of Imports from Developing Countries (CBI) |
| Hero |
| IFAT |
| Unilever |
| Ministry of Agriculture, NL |

| Interviewed Organisations in Rwanda 15 – 20 April 2008 | |
|---|---|
| **Organisation** | **Description** |
| RARDA | Part of Ministry of Agriculture concerned with beekeeping |
| RIEPA | Rwanda Investment and Export Promotion Agency |
| MINICOM | Ministry of Commerce |
| BNR | National Bank of Rwanda |
| RBS | Rwanda Bureau of Standards |
| NOVOTEL | Hotel in Kigali |
| SERENA | Hotel in Kigali |

| | |
|---|---|
| SINA GÉRARD | Entrepreneur Northern Rwanda |
| RARDA | Part of Ministry of Agriculture concerned with beekeeping |
| FAV | Force des Apiculteurs des Volcanos (Cooperative) |
| SHEMA FRUITS | Entrepreneur Southern Rwanda |
| MIG | Entrepreneur Southern Rwanda |
| PPPMER | (Project of MINICOM) Project pour la Promotion des Petites et Micro Entreprises Rurales |
| CAPMER | (Project of MINICOM) Centre d’Appui aux Petites et Moyennes Entreprises au Rwanda |
| ARDI | Local NGO |
| CESAPI | Private sector arm of ARDI |

**Annex 2: EU Organic Certification**

ORGANIC BEEKEEPING AND BEEKEEPING PRODUCTS ACCORDING TO EU (1804/99/EC)

**1. General principles**

1.1. Beekeeping is an important activity that contributes to the protection of the environment and agricultural and forestry production through the pollination action of bees.

1.2. The qualification of beekeeping products as being from organic production is closely bound up both with the characteristic of the hives' treatments and the quality of the environment. This qualification also depends on the conditions for extraction, processing and storage of beekeeping products.

1.3. When an operator runs several beekeeping units in the same area all the units must comply with the requirements of this Regulation. By derogation from this principle, an operator can run units not complying with this Regulation provided that all the requirements of this Regulation are fulfilled with the exception of the provisions laid down in paragraph 4.2 for the siting of the apiaries. In that case, the product cannot be sold with references to organic production methods.

**2. Conversion period**

2.1. Beekeeping products can be sold with references to the organic production method only when the provisions laid down in this Regulation have been complied with for at least one year. During the conversion period the wax has to be replaced according to the requirements laid down in paragraph 8.3.

**3. Origin of the bees**

3.1. In the choice of breeds, account must be taken of the capacity of animals to adapt to local conditions, their vitality and their resistance to disease. Preference shall be given to the use of European breeds of Apis mellifera and their local ecotypes.

3.2. Apiaries must be constituted by means of the division of colonies or the acquisition of swarms or hives from units complying with the provisions laid down in this Regulation.

3.3. By way of a first derogation, subject to the prior approval by the inspection authority or body, apiaries existing in the production unit not complying with the rules of this Regulation can be converted.

3.4. By way of a second derogation, swarms on their own may be acquired from beekeepers not producing in accordance with this Regulation during a transitional period expiring on 24 August 2002 subject to the conversion period.

3.5. By way of a third derogation, the reconstitution of the apiaries shall be authorised by the control authority or body, when apiaries complying with this Regulation are not available, in case of high mortality of animals caused by health or catastrophic circumstances, subject to the conversion period.

3.6. By way of a fourth derogation, for the renovation of the apiaries 10% per year of the queen bees and swarms not complying with this Regulation can be incorporated into the organic-production unit provided that the queen bees and swarms are placed in hives with combs or comb foundations coming from organic-production units. In the case, the conversion period does not apply.

**4. Siting of the apiaries**

4.1. The Member States may designate regions or areas where beekeeping complying with this Regulation is not practicable. A map on an appropriate scale listing the location of hives as provided for in Annex III, Part A1, section 2, first indent shall be provided to the inspection authority or body by the beekeeper. Where no such areas are identified, the beekeeper must provide the inspection authority or body with appropriate documentation and evidence, including suitable analyses if necessary, that the areas accessible to his colonies meet the conditions required in this Regulation.

4.2. The siting of the apiaries must:

(a) ensure enough natural nectar, honeydew and pollen sources for bees and access to water;

(b) be such that, within a radius of 3 km from the apiary site, nectar and pollen sources consist essentially of organically produced crops and/or spontaneous vegetation, according to the requirements of Article 6 and Annex I of this Regulation, and crops not subject to the provisions of this Regulation but treated with low environmental impact methods such as, for example, those described in programs developed under Regulation (EEC) No 2078/92 (*****) which cannot significantly affect the qualification of beekeeping production as being organic;

(c) maintain enough distance from any non-agricultural production sources possibly leading to contamination, for example: urban centres, motorways, industrial areas, waste dumps, waste incinerators, etc. The inspection authorities or bodies shall establish measures to ensure this requirement.

The above requirements do not apply to areas where flowering is not taking place, or when the hives are dormant.

**5. Feed**

5.1. At the end of the production season hives must be left with reserves of honey and pollen sufficiently abundant to survive the winter.

5.2. The artificial feeding of colonies is authorised where the survival of the hives is endangered due to extreme climatic conditions. Artificial feeding shall be made with organically produced honey, preferably from the same organic-production unit.

5.3. By way of a first derogation from paragraph 5.2, the competent authorities of the Member States can authorise the use of organically-produced sugar syrup, or organic sugar molasses instead of organically-produced honey in artificial feeding, in particular, when it is required by climatic conditions that provoke crystallisation of honey.

5.4. By way of a second derogation, sugar syrup, sugar molasses and honey not covered by this Regulation may be authorised by the inspection authority or body for artificial feeding during a transitional period expiring on 24 August 2002.

5.5. The following information shall be entered in the register of the apiaries with regard to the use of artificial feeding: type of product, dates, quantities and hives where it is used.

5.6. Other products different from those indicated in paragraphs 5.1 to 5.4 cannot be used in beekeeping which complies with this Regulation.

5.7. Artificial feeding may be carried out only between the last honey harvest and 15 days before the start of the next nectar or honeydew flow period.

**6. Disease prevention and veterinary treatments**

6.1. Disease prevention in beekeeping shall be based on the following principles:

(a) the selection of appropriate hardy breeds;

(b) the application of certain practices encouraging strong resistance to disease and the prevention of infections, such as: regular renewal of queen bees, systematic inspection of hives to detect any health anomalies, control of male broods in the hives, disinfecting of materials and equipment at regular intervals, destruction of contaminated material or sources, regular renewal of beeswax and sufficient reserves of pollen and honey in hives.

6.2. If despite all the above preventive measures, the colonies become sick or infested, they must be treated immediately and, if necessary, the colonies can be placed in isolation apiaries.

6.3. The use of veterinary medicinal products in beekeeping which complies with this Regulation shall respect the following principles:

(a) they can be used in so far as the corresponding use is authorised in the Member State in accordance with the relevant Community provisions or national provisions in conformity with Community law;

(b) phytotherapeutic and homeopathic products shall be used in preference to allopathic products chemically synthesised, provided that their therapeutic effect is effective for the condition for which the treatment is intended;

(c) if the use of the abovementioned products should prove or is unlikely to be effective to eradicate a disease or infestation which risks destroying colonies, allopathic chemically

synthesised medicinal products may be used under the responsibility of a veterinarian, or other ersons authorised by the Member State, without prejudice to the principles laid down in paragraphs (a) and (b) above;
(d) the use of allopathic chemically synthesised medicinal products for preventive treatments is prohibited;
(e) without prejudice to the principle in (a) above formic acid, lactic acid, acetic acid and oxalic acid and the following substances: menthol, thymol, eucalyptol or camphor can be used in cases of infestation with Varroa jacobsoni.

6.4. n addition to the above principles, veterinary treatments or treatments to hives, combs etc., which are compulsory under national or Community legislation shall be authorised.

6.5. If a treatment is applied with chemically synthesised allopathic products, during such a period, the colonies treated must be placed in isolation apiaries and all the wax must be replaced with wax complying with the conditions laid down in this Regulation. Subsequently, the conversion period of one year will apply to those colonies.

6.6. The requirements laid down in the previous paragraph do not apply to products mentioned in paragraph 6.3(e).

6.7. Whenever veterinary medicinal products are to be used, the type of product (including the indication of the active pharmacological substance) together with details of the diagnosis, the posology, the method of administration, the duration of the treatment and the legal withdrawal period must be recorded clearly and declared to the inspection body or authority before the products are marketed as organically produced.

**7. Husbandry management practices and identification**

7.1. The destruction of bees in the combs as a method associated with the harvesting of beekeeping products is prohibited.

7.2. Mutilation such as clipping the wings of queen bees is prohibited.

7.3. The replacement of the queen bees involving the killing of the old queen is permitted.

7.4. The practice of destroying the male brood is permitted only to contain the infestation with Varroa jacobsoni.

7.5. The use of chemical synthetic repellents is prohibited during honey extractions operations.

7.6. The zone where the apiary is situated must be registered together with the identification of the hives. The inspection body or authority must be informed of the moving of apiaries with a deadline agreed on with the inspection authority or body.

7.7. Particular care shall be taken to ensure adequate extraction, processing and storage of beekeeping products. All the measures to comply with these requirements shall be recorded.

7.8. The removals of the supers and the honey extraction operations must be entered in the register of the apiary.

**8. Characteristics of hives and materials used in beekeeping**

8.1. The hives must be made basically of natural materials presenting no risk of contamination to the environment or the apiculture products.

8.2. With the exception of products mentioned in paragraph 6.3(e) in the hives can be used only natural products such as propolis, wax and plant oils.

8.3. The beeswax for new foundations must come from organic production units. By way of derogation, in particular in the case of new installations or during the conversion period, bees wax not coming from such units may be authorised by the inspection authority or body in exceptional circumstances where organically produced beeswax is not available on the market and provided that it comes from the cap.

8.4. The use of combs, which contain broods, is prohibited for honey extraction.

8.5. For the purposes of protecting materials (frames, hives and combs), in particular from pests, only appropriate products listed in part B, Section 2, of Annex II are permitted.

8.6. Physical treatments such as stream or direct flame are permitted.

8.7. For cleaning and disinfecting materials, buildings, equipment, utensils or products used in beekeeping only the appropriate substances listed in Annex II Part E are permitted.

**Annex 3: Final Presentation of Market Research, 24th April 2008, Kampala**