



Netherlands
Development
Organisation



Enabling poor rural people
to overcome poverty

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BEEKEEPING / HONEY VALUE CHAIN FINANCING STUDY REPORT

Beekeeping/ Honey Value Chain Financing Study Report

MAY 2009

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Mr. Jean de Matha Ouedraogo
Country Director
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ABBREVIATIONS:

ARDI	-	Rwanda Association for Integrated Development
BRD	-	Development Bank of Rwanda
EDPRS	-	Economic Development Poverty Reduction Strategy
CAR	-	Rushaki Beekeepers Co-operative
CESAPI	-	Center for Api-business
Co-op	-	Co-operative
COF	-	Cost of Funds
FAO	-	Food and Agriculture Organization
FAV	-	Virunga Farmers Association
GEMP	-	Gender Entrepreneurship Market Program
HPP	-	Honey Processing Plants
IFC	-	International Finance Corporation
IGA	-	Income Generating Activities
ILO	-	International Labour Organization
IUHE	-	Illegal and Unreported Honey Exports
KG	-	Kilogram
KTBH	-	Kenya Top Bar Hive
KOPAKI	-	Kirehe Beekeepers Co-operative
MDG	-	Millennium Development Goals
MFI	-	Microfinance Institution
MT	-	Metric Tones
PPPMER II	-	Project pour la promotion des petites et micro-entreprises rurales (Phase 2)
RARDA	-	Rwanda Animal Resources Development Agency
RBS	-	Rwanda Bureau of Standards
RCA	-	Rwanda Co-operative Agency
RDB	-	Rwanda Development Board
RIM	-	Reseau Inter-diocesan de Microfinance
RSSP	-	Rural Sector Support Program
RWF	-	Rwandan Francs
SNV	-	Netherlands Development Organization
UNICOAPIGI	-	Union of Co-operatives in Apiculture
US\$	-	United States Dollar
VCA	-	Value Chain Analysis
VCF	-	Value Chain Finance

TABLE OF CONTENTS

GLOSSARY;	VI
EXECUTIVE SUMMARY:	VII
1. INTRODUCTION AND BACKGROUND:	1
1.1 Introduction and Background of SNV Rwanda:	1
1.2 Involvement of SNV Rwanda in the Beekeeping Sub-sector:	1
1.3 The Value Chain Finance Assessment:.....	2
1.4 Scope of the VCF Study:	2
1.5 Approach and Methodology:	2
2. VALUE CHAIN ANALYSIS OF THE BEEKEEPING SUB-SECTOR IN RWANDA:	3
2.0 Overview and Relevance of the VCA:	3
2.1 Background of Beekeeping in Rwanda:.....	3
2.2. Beekeeping Trends and Statistics:	3
2.3 Honey Production, Market Dynamics and Consumption:	4
2.4 Beekeeping Value Chain Functions and Actors:.....	7
2.5 The Beekeeping Value Chain Map:	11
3. THE BEEKEEPING VALUE CHAIN FINANCE ANALYSIS:	12
3.0 Introduction and Relevance of Value Chain Finance:	12
3.1 The Demand Side of Beekeeping Value Chain Finance:.....	12
3.2 The Supply Side of Beekeeping Value Chain Finance:	16
3.3 Existing Capacity Gaps in Accessing Financial Services:.....	22
3.4 Recommendations to Address the Existing Capacity Gaps:.....	27
4. BEST PRACTICES FOR SUSTAINABLE BEEKEEPING VALUE CHAIN FINANCE:	29
4.1 Best Practices at Program Level:	29
4.1.1 Focus on addressing root causes rather than effects:	29
4.1.2 Encourage beekeepers to participate actively in their own development:	31
4.1.3 Encourage replication of knowledge from common to individual apiaries:	32
4.1.4 Holistic double-edged capacity building of beekeepers;	33
4.1.5 Focus on institutional strengthening:	33
4.2.1 Sensitize farmers on the importance of increasing production:	33
4.2 Best Practices at National Level:.....	33
4.2.1 Demonstrating viability of beekeeping as an enterprise:.....	33
4.2.2 Assessing ways of mitigating risks in lending:	34
4.2.3 Triggering development of embedded services within the value chain:	34
4.3.3 Fostering collective planning among development partners.....	36
4.3.4 Develop and strengthen effective clusters:	36
5. PROPOSED SEQUENCE OF ACTIVITIES IN ORDER OF PRIORITY:	37
6. ANNEXES:	39
6.1 List of Participants to the Validation Workshop:	39
6.2 Validation Workshop Speech:.....	41
6.3 References:.....	41

GLOSSARY;

Term:	Relative reference:
Actor/stakeholder:	Institutional or individual entities participating in one way or the other in the beekeeping sub-sector.
Chain:	Linkage of actors or stages through which the product (honey) passes towards consumption.
Development partners:	Non-governmental organizations.
Gaps:	Areas or issues that are lacking in one way other – not complete.
Sub-sector:	The general “national” framework of apiculture including all actors, products and functions - also incorporating the social, political and environmental aspects.
Primary Processing:	The basis form of honey processing which mostly involved extraction of honey from the hive combs and storage.
Program:	A range of activities formulated by development organizations that are aimed at improving certain conditions of a target community or actors.
Secondary Processing:	More specialized and technical processing of honey involving cleaning, refining and packing honey.

EXECUTIVE SUMMARY:

SNV Rwanda has been a stakeholder in the beekeeping sub-sector since 2004. Its positioning here is motivated by the objectives set under the national development policies, particularly through the Vision 2020, the strategic framework for poverty alleviation (EDPRS) and the Millennium Development Goals (MDGs). SNVs' development approach emphasizes on creating synergies among actors to achieve impact results in terms of increased production, income and poverty reduction.

Beekeeping has been carried out across many generations in Rwanda. It plays a critical role in the livelihoods of the rural communities in five native dynamics; one, it is an income generating activity; two, medicinal value of honey and other hive products is invaluable; three, it supports agricultural activities through facilitating critical processes for example cross pollination and improves crop yield; four, it contributes immensely to forests conservation efforts and five, it facilitates healthy linkages between biodiversity (insects and plants) towards sustainable livelihoods. Beekeeping in Rwanda has been practised for many years through successive generations and along inherited patterns. However, the activity has basically been traditional and of subsistence in nature, where honey was used as a food product for home, medicine and for brewing traditional liquor. As such the sub-sector remains largely underdeveloped.

However, this trend is rapidly changing and community members are increasingly taking up beekeeping as a business enterprise. This is towards increasing honey production for greater incomes and better livelihoods. Production is based on hives and the low production levels being recorded are as a result of over-dependence on traditional rather than the modern Kenya Top Bar (KTB) and the langstroth hives. While current and potential beekeeping entrepreneurs are aware of the importance of adopting modern technologies to increase honey production, access to financial services remains a key challenge towards financing the acquisition of modern hives which are considered too expensive. The cost of a modern langstroth hive ranges from RWF 25,000 – 35,000 (US\$ 47 – 63). This amount is considered out of reach for many community members who are said to be earning less than US\$ 1 per day thus are living below the poverty line.

This necessitated SNV to commission a Value Chain Financing Study (VCF) that sought to assess the financial needs of current and potential beekeeping entrepreneurs which constituted the demand of financial services for all actors in the beekeeping sub-sector. The VCF study went further to assess available opportunities for example grants, products and services from financial and other institutions that can assist the entrepreneurs based on their needs and social economic profile and to identify the existing gaps that hinder beekeeping entrepreneurs from accessing the available financial services. To facilitate a comprehensive VCF study a value chain analysis of the beekeeping sub-sector was carried out to identify and map participating actors, their functions and relations with other actors. The output of this is contained in chapter 2.

The identified financial needs were diverse based on their positioning and functions within the value chain. At the honey production level where we have beekeeping entrepreneurs the average loan requirement to purchase modern hives and associated equipment ranged from RWF 75,000 – 125,000 (US\$ 133 – 223) an amount considered too low by commercial banks due to the high costs that are involved in appraising, disbursing and following up loans. At the primary collection and bulking function the average financial requirements ranged from RWF 4,000,000 – 13,000,000 (US\$ 7,142 – 23,214). This was found to be easily accessible from commercial banks and financial institutions.

Various financial service providers were identified who comprised government agencies for example MINAGRI that has established a guarantee fund through its Rural Sector Support Program (RSSP), commercial banks, micro finance institutions (MFI) and co-operative societies. All financial institutions were more inclined to providing their services to actors from the collection function upwards thus deliberately leaving out the honey producers. This was attributed to several factors that comprised among others the lack of a savings culture among beekeepers, high risk perception of beekeeping as an enterprise, honey producers lack of reliable financial profiles, lack of physical collateral and the inability of beekeepers to illustrate commercial viability of the enterprise. Interest rates for loan products with financial institutions were found to range from 13 – 20% for commercial banks thus an estimated effective rate of 18 – 26% p.a. while for MFI the interest rate on loans ranged from 24 – 30% pa (fixed). Terrafina was found to be providing low interest loans to MFI and co-operative societies with interest rates ranging from 7 – 9% pa (reducing balance) in addition to the grant finance scheme to the same organizations.

The closest financial services providers to the beekeeping entrepreneurs were the farmer based co-operatives which are only acting as honey collection and bulking centres. The co-operatives while most adequately placed to provide financial and non-financial services to members are weak essentially weak in their institutional and share capital thus are incapacitated to provide financial services to the members. These institutions require urgent strengthening and restructuring to ensure that they remain relevant to their own existence.

Attractive and available grant opportunities were identified from several stakeholders who included Terrafina (a Dutch NGO), ILO Co-op Africa, TROCAIRE Rwanda and the Rwanda Development Board (Enterprise and Export Promotion Department). These exposed several options that could be explored to assist the co-operative societies.

Finally, the VCF study identified several best practices for adoption by SNV and other stakeholders towards enhancing the performance of the sub-sector in a sustainable way. They included the recommendation to do away with subsidies to beekeepers and their co-operatives, focus on addressing the root causes of the prevailing problems not the effects, encouraging beekeeping to actively participate in their own development and advocating for the replication of knowledge and skills from common to individual apiaries. Focus on institutional strengthening (especially of the co-operatives), triggering the development of embedded services within the value chain, fostering collective planning among development partners and development of effective clusters were also recommended as best practices for a vibrant beekeeping sub sector. Chapter 5 of the report discusses a general approach to adopting the best practices on a short medium and long-term basis.

The report contains much more detail with illustrations to support as well and your indulgence is encouraged to understand the rationale behind the findings and recommendations of the study.

1. INTRODUCTION AND BACKGROUND:

1.1 Introduction and Background of SNV Rwanda:

SNV – the Netherlands Development Organization has been operating in East and Central Africa since the 1960s and its main objectives have been to dedicate efforts to reduce poverty, to address social inequalities and to help improve governance. However, rather than implement programs with partners, SNV assists local organizations to carry the responsibility to do their own work towards development. To this end, SNV focuses on building the capacity organizations at the meso and micro levels also working with some just below the macro level. At the meso level, SNV focuses on strengthening the capacity of organizations such as local governments, umbrella organizations of NGOs, networks, business associations, regularly organized private sector groups and similar organizations to achieve their own objectives and operate effectively and efficiently.

The main role of SNV is therefore to develop interventions which facilitate processes that one, improve the position of potential small scale entrepreneurs; two, promote the establishment of market linkages and public-private partnership and three, influence policy making and governance to favor economic led by the private sector. It is in this light that beekeeping has been identified as a low investment and high returns enterprise with enormous potential to assist local communities in generating income for their livelihoods thus justifying SNVs interest in the beekeeping sub-sector.

1.2 Involvement of SNV Rwanda in the Beekeeping Sub-sector:

SNV Rwanda has been a stakeholder in the beekeeping sub-sector since 2004. Its positioning in this sector has been motivated by the objectives set under the national development policies, particularly through the Vision 2020, the strategic framework for poverty alleviation (EDPRS) and the Millennium Development Goals (MDGs). SNVs' approach emphasizes on creating synergies among actors to achieve impact results in terms of increased production, income and employment, which is likely to contribute to the achievement of the millennium development goals. SNV Rwanda also stresses the importance of sustainability in interventions of which one of the conditions is the ownership of the process of capacity development by the beneficiaries.

To strengthen its' engagements in value chain development for clients and partners, SNV provides a mix of advisory capacity development products and services including:

- Enabling linkages, efficiency and effectiveness of value chain actors through multi-stakeholder platforms;
- Producer group strengthening in order to increase the business sense and performance of cooperatives;
- Facilitating financial analysis of needs and development to business plans for sound investment;
- Increasing market access through analysis of the market and required quality;
- Increasing market intelligence through collection, analysis and decision making based on robust statistical data;
- Effective Public Policy Management, and
- Integration of governance for empowerment principles in all interventions.

The progress made in recent years in the beekeeping sector should not mask the difficulties of a fledgling industry especially with regard to management aspects. Moreover as the sector is oriented towards the local and international market it must respond to specific standards. Another challenge concerns the financing of beekeepers' cooperatives and the private sector, in terms of

investment or financing their working capital requirements. This specific problem must be addressed in a short term in order to boost the beekeeping sector and contribute to poverty alleviation especially in the rural areas of Rwanda.

1.3 The Value Chain Finance Assessment:

This assessment was commissioned as part of SNV's efforts to streamline and strengthen interventions within the sub-sector in Rwanda. The assessment had four main objectives:

- i. To identify the financial needs of the beekeeping sub-sector actors from input supply to the final markets;
- ii. To identify opportunities that can benefit the value chain actors in terms of access to financial services and requirements to meet;
- iii. To map available opportunities in terms of grants, loans, capital investments and joint ventures that can benefit value chain actors in Rwanda from production to marketing; and
- iv. To track best practices and experiences related to the honey value chain financing at national, regional and international level which can help in developing appropriate financial products for the beekeeping sub-sector in Rwanda.

This was towards identifying the beekeeping related financial products and services available in the market, documenting the terms and conditions to access them as well as mapping of institutions offering the products. This will enhance the knowledge of SNV Rwanda and the stakeholders towards looking at the beekeeping sub sector from a financial lens that clearly illustrates the demand and supply issues of financial products and services. Existing and missing linkages within the value chain have been identified, analysed and documented while providing recommendations to enhance effectiveness and efficiency of sub-sector related interventions.

1.4 Scope of the VCF Study:

The study was carried out in Rwanda across the five Provinces which comprise Kigali City, Northern, Eastern, Western and Southern Provinces. The specific districts covered were Gicumbi, Musanze and Burera in the Northern Province, Kirehe and Ngoma in Eastern Province, Rubavu and Rutsiro in Western Province and Nyamagabe in the Southern Province.

The study team also had numerous discussions with stakeholders in Kigali City who mainly comprised commercial banks, honey processing plants, government agencies and private sector actors. Due to the short period of the study and limited resources available the study was carried out on a sample of respondents who were considered to represent a larger majority. The findings are considered comprehensive and representative of the average position across the country as a reasonable sample of respondents was selected and involved in each region.

1.5 Approach and Methodology:

During the field visits, focus group discussions were used where the study team was meeting community groups for example co-operative society members while key informant interviews were used to discuss with technical persons and representatives of various organizations. During field visits four languages (Kinyarwanda, French, English and Swahili) were used and where necessary translations were made to assist both the study team and respondents in carrying out meaningful discussions.

Beekeeping Stakeholders were invited to a validation workshop where the draft report findings were shared and discussed at length that led to the finalization of this report.

2. VALUE CHAIN ANALYSIS OF THE BEEKEEPING SUB-SECTOR IN RWANDA:

2.0 Overview and Relevance of the VCA:

The Value Chain Analysis (VCA) was carried out to inform SNV and other stakeholders about the current structure of the beekeeping sub-sector in Rwanda. A value chain analysis assesses the existing vertical and horizontal linkages within the sub-sector as well as functions and roles of actors from input supply to the final consumers. It was considered prudent to carry out a rapid VCA before the value chain study as this would give a clear picture of the actors, activities and existing relationships across the board.

2.1 Background of Beekeeping in Rwanda:

Beekeeping has been carried out across many generations in Rwanda. It plays a critical role in the livelihoods of the rural communities in five native dynamics; one, it is an income generating activity; two, medicinal value of honey and other hive products is invaluable; three, it supports agricultural activities through facilitating critical processes for example cross pollination and improves crop and seed yield; four, it contributes immensely to forests conservation efforts and five, it facilitates healthy linkages between biodiversity (insects and plants) towards sustainable livelihoods.

It is also a low-investment and low-input business enterprise that directly generates economic gains for the participating members and integrates well with agriculture that forms the main economic activity for communities living in the rural areas. Its advantages are numerous also bearing in mind that it can be practiced by men, women, and youth and it is a crucial avenue towards poverty reduction and enhancing the quality of life. The sub-sector harbors a great potential for increasing incomes and supportive sustainable development, especially considering the varied players and activities along the broader chain¹.

Despite the above and numerous other probable advantages that can be realized from beekeeping, the sub-sector remains largely underdeveloped². This is because beekeeping is still carried as an indigenous activity mostly passed down through generations. As such most beekeeping farmers have not fully appreciated its potential and value as a commercial enterprise capable of generating income.

2.2. Beekeeping Trends and Statistics:

It is estimated that there are more than 45,000 active beekeepers managing more than 90,000 hives, mainly traditional, across Rwanda³. Available statistics from the Food and Agricultural Organization (FAO) database show an average of 30MT and 21MT for honey and beeswax respectively⁴. According to a baseline survey carried out by SNV Rwanda in 2007, across 17 high potential honey production Districts in Rwanda showed that there were an estimated 30,293 beekeepers of whom 18,430 were men, 7,233 women and 4,630 were youth. The total number of hives was estimated to be 92,971 with 84,255 being traditional log, mud and other indigenous hives while the modern hives were estimated to be approximately 8,716.

¹ Value Chain Analysis of Beekeeping in Kinangop and Kakamega Districts of Kenya, July 2008

² Developing Sustainable Beekeeping Activities in Rwanda, The National Program Framework Document by the Beekeeping Taskforce - Rwanda

³ Production data, SNV Rwanda Beekeeping Baseline Study 2004

⁴ FAO Statistics, database livestock primary and processed data 2006

This illustrates an enormous disparity but is justified by the background and history of beekeeping in Rwanda. The highest honey producing Districts were Rusizi, Gicumbi, Ngoma and Gatsibo with 25,361; 23,898; 20,917 and 20,007 respectively. The profile of 17 high potential honey producing Districts is contained in the summarized table contained below:

District	Gender Breakdown:			Total No. of Producers	Hives Assessment:			Honey Production (KGS):	Estimated Income (US\$)
	Men	Women	Youth		Traditional:	Modern:	Total		
Rusizi	2982	614	737	4333	9311	2937	12248	25361	64,555.27
Nyamasheke	2225	327	419	2971	6439	973	7412	16430	41,821.82
Nyamagabe	866	239	271	1376	3734	342	4076	7349	18,706.55
Nyaruguru	1537	425	346	2308	4938	516	5454	9372	23,856.00
Burera	814	268	18	1100	4401	209	4610	4724	11,165.82
Musanze	660	304	101	1065	4179	242	4421	1848	4,368.00
Ngororero	1036	477	181	1694	3600	278	3878	1824	4,311.27
Nyabihu	518	204	47	769	2227	121	2348	1250	2,954.55
Rubavu	151	32	18	201	467	50	517	597	1,411.09
Rutsiro	937	801	998	2736	3243	782	4025	4461	10,544.18
Gatsibo	1077	458	213	1748	5314	411	5725	20007	47,289.27
Gicumbi	1688	662	409	2759	10720	887	11607	23898.5	56,487.36
Kayonza	1037	899	204	2140	4952	287	5239	6206	14,668.73
Kirehe	779	394	197	1370	5664	80	5744	7692	18,181.09
Ngoma	1258	720	266	2244	10341	437	10778	20917	49,440.18
Nyagatare	865	409	205	1479	4725	164	4889	6704	15,845.82
Totals (17 Districts)	18,430	7,233	4,630	30,293	84,255	8,716	92,971	158,641	385,607

Table 1
Source: Apiculture Baseline Study of in Rwanda, SNV 2007

2.3 Honey Production, Market Dynamics and Consumption:

2.3.1 Honey Production:

Production is mainly through indigenous means with most farmers having the traditional log, grass and bark hives. Due to their topology, background and design characteristics, traditional hives are universally low yielding in terms of honey production which is the main verifiable indicator. The assessment revealed that the average hive ownership per farmer in the high potential areas was 2.6. The average yield from traditional hives per season is a net of 3.5Kgs which falls short of the standard average estimate of 5.6 Kgs per season.

The table below illustrates the production capacities of different hives against the estimated optimal potentials.

Type of Hive:	Average Prod. (Kgs) /season:	Seasons /year:	Optimal Production /year	Variance:
Traditional	5.6	2	15	(25%)
KTBH	10	2	26	(23%)
Langstroth	14	2	60	(53.3)

Table 2

Source: Field investigations, May 2009

Modern hives, the Kenya Top Bar Hive and the langstroth are slowly gaining ground although there have been some concerns regarding their designs and raw materials which negatively impact on colonization speeds and productivity. Harvesting techniques depend on the type of hives owned by the farmer. Producers with indigenous hives harvest by cutting across and removing the central comb thus sometimes harvesting raw honey or honey mixed with larvae. Producers with modern langstroth carry the super box to the co-operative offices where they have access to the centrifuge machines.

Most farmers do the harvesting themselves although there are some community members who have received specialized training on hive management and harvesting. The training is provided by development partners' key of who include PPPMER II and ARDI. Where hive owners invite the trained persons to harvest, payment is made in cash or in kind. The average cash payment is US\$ 1.7 (RWF 1,000) for 1-3 hives. In kind payment is made through the equivalent honey quantity which for the above amount is 1Kg of honey. The payment structure is neither fixed nor defined and is usually dependent on personal negotiations and mutual understanding between the hive owner and the harvester.

2.3.2 Honey Markets and Marketing:

Formerly, honey was produced for subsistence i.e domestic purposes only but communities across the country are increasingly taking up commercially oriented production. Subsistence-led production was mainly because of the traditional background and history of beekeeping. The honey market comprises of three main nodes:

- i. The local market (friends, neighbours and surrounding villages);
- ii. Local and external bulking agents (middlemen, traditional liquor brewers, traders, non-governmental organizations);
- iii. Farmer based co-operative societies. This is the most popular direct market as it offers better prices as compared to the local and external bulking agents.

The main market for the bulked honey in Rwanda is the capital city Kigali with some of it finding its way back to the larger towns. In Kigali honey is used by food processing, liquor and pharmaceutical companies. Honey is also refined further and packed into containers for sale to domestic consumers as table honey.

The bulking agents and farmer based co-operatives in turn market and sell the honey to processing companies and retail stores for example Nakumatt and Simba in Kigali. Other main consumers of honey include honey, liquor brewing entities and pharmaceutical companies.

2.3.3 Market Dynamics and Price Differentials:

The honey market is relatively stable with two main buyer categories that comprise the co-operative societies and middlemen /bulking agents. The price for basic⁵ level refined honey was found to average between RWF 1,000 – 1,300 (US\$ 1.5 – 2.3). The co-operatives form the largest initial market for honey produced by individual farmers while some for example CAR and KOPAKI have central co-operative owned apiaries. The system is well defined and all co-operative society based farmers are aware and appreciate the need to sell honey to their co-operatives. However, due to capital deficiencies and when supply is high the co-operatives lack adequate capacity to purchase all the honey produced by the members. This is mostly during the harvest season and it is from this capital deficiency that middlemen access honey from the farmers.

Average production (KGS)/Season:	Quantity that Co-op can purchase (KGS):	Price offered by co-op (RWF):	Price offered by middlemen (RWF):	Deficit: (RWF)
CAR	4,000	800	1,200	400
KOPAKI	5,000	1,000	1,400	400
UNICOAPIGI	6,500	1,200	1,400	200

Table 3

Source: Field Investigations, May 2009

There is no price differential for different qualities of honey and as such the producers are not motivated to enhance or maintain the quality of honey to the highest standards. There are efforts to enhance the quality of honey mostly by co-operatives which encourage beekeeping farmers to engage the trained service providers to ensure that honey is harvested in the recommended practices. This system also enhances the flow of information and knowledge from the business service providers to the beekeepers thereby acts as a capacity building forum.

2.3.4 Consumption of honey and other hive products:

Honey is the main beekeeping product. It is consumed widely across the country as a table food, for its medicinal qualities, preservative, or medicine. As a food, honey is consumed for its rich fructose, sucrose and glucose levels, making it a natural source of energy. The high sugar levels and its ability to catalyze fermentation make honey a suitable raw material for brewing liquor hence it is also used for the industrial production of local beer. Its antioxidant properties make it ideal as a preservative in foods, including meat, poultry and pastry – this is mostly by large food processing companies.

Most consumers of honey are found in the larger towns and Kigali City. A large quantity of honey produced is destined for honey processing plants (HPP) based in Kigali who refine and pack it in different sized containers for resale to do domestic consumers and commercial outlets which mainly comprise restaurants. The current demand of honey in Rwanda is estimated at 1,715 metric tons up from 1,625 metric tons in 2006⁶. This comprises both the domestic and commercial users demand for honey and is against a current production capacity of

2.3.5 Illegal and Unrecorded Honey Exports (IUHE):

There exists an unmeasured traffic of honey and bee products across the regional borders, and whose revenue identities remain elusive due to lack of the necessary systems and enforcement of traceable channels⁷. The main beneficiaries of the IUHE are countries directly bordering Rwanda which include Burundi, Congo, Tanzania and Uganda.

⁵ Basic level – depicting the primary refining that involves separation of the wax and honey only.

⁶ RARDA /Rwanda Development Gateway

⁷ Developing Sustainable Beekeeping Activities in Rwanda, The National Program Framework Document by the Beekeeping Taskforce - Rwanda

2.4 Beekeeping Value Chain Functions and Actors:

The beekeeping /honey value chain map and actors and functions can be broadly clustered into three main tiers; the bottom, middle and top tiers. This is based on their role/s in the production of honey or roles which range from production, handling, processing, and distribution all through to the end markets.

2.4.1 Bottom tier actors and functions:

i. Inputs supply:

Input suppliers constitute the initial node of the value chain and they comprise organizations and or individual entrepreneurs involved in the construction of beekeeping gear for sale to interested producers. They mostly focus on producing modern hives (KTBH and the langstroth) as well as other hive equipment. They mostly work in collaboration or under contracts from technical institutions to procure hives and associated gear and thereafter market these inputs to the beekeepers. Community members in most areas were also aware of local artisans who can be contracted to construct high quality hives.

Despite the high level of awareness about the potential of using modern hives many beekeeping entrepreneurs are still using traditional hives. This is mainly due to the high costs of acquisition associated with the modern hives which puts them out of reach for many entrepreneurs. This may be the biggest hindrance to sustainable honey production in Rwanda. A modern langstroth hive complete with a brood-box, queen excluder and super chamber was found to cost approximately RWF 25,000 – 35,000 (US\$ 45 – 63).

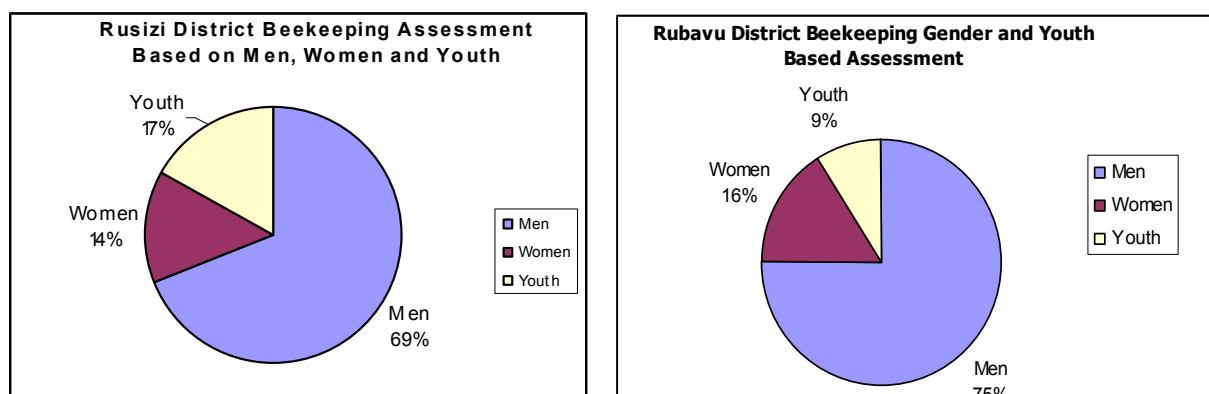
In addition to high cost of acquiring the modern hives the quality of construction is sometimes questionable and some hives have not colonized for as many as 2 years. This forces willing farmers to depend largely on traditional hives which have lower production and capacity as well as low acquisition costs. Assemblage of hives using well seasoned materials has been a key challenge but due to the increasing popularity of the modern hives and the need to make quick money, some hive manufacturers use unsuitable wood and other products that alter the topology and setting of a standard langstroth hive.

ii. Production:

Honey production is currently a male-dominated activity although records show that women are increasingly taking it up as an emerging Income Generating Activity (IGA). Production is mainly through three ownership and tenure systems; individually owned apiaries at the farm level; co-operative society advanced hives and located in the member's farms and collectively owned apiaries mainly found in the adjacent forests for example Gishwati, Nyungwe and Akagera forest. Individual beekeeping entrepreneurs were found to have at least 1-2 traditional hives and they carry out beekeeping using inherited indigenous knowledge and skills. Following recent training by development partners who include PPPMER II, ARDI and RARDA some are taking up modern hives with different areas having a preference for KTBH while others prefer the langstroth hives.

While women are taking up beekeeping as an income generating activity, their involvement remains limited despite their strategic positioning as farm managers and more active laborers factors that puts them at an advantage over their male counterparts. The youth are even more sidelined in production with some districts recording alarming average involvement rates of 7-9% and aggregate involvement rates of 11% across a sample of 17 districts. In comparison to men and youth the average involvement rate of women ranged between 18-22% across the 17

sampled districts⁸. Collective Co-operative Society owned apiaries are popular in many areas that include Gishwati Forest, Nyungwe Forest, Akagera and Virunga National Parks⁹.



The current average production is dependent on the type of hive and is illustrated below:

Type of hive:	No. of seasons:	Ave. Prod /season: (Kgs)	Optimal prod/year: (Kgs) ¹⁰
Indigenous	2	5	15
KTBH	2	9	18
Langstroth	3	20	60

Table 4

Source: Field Investigations, May 2009

iii. Farm level semi-processing:

This is considerably common for honey from indigenous and KTBH. For the log hives and KTBH, producers carry out semi-processing when extracting honey from the combs. This is done using the double cooking pan or self-drip. For improved KTBH and Langstroth, the producers or honey bulking agents use simple tools such as spoons to squeeze honey from combs even though this method has a negative effective on the comb foundation. Overall, nearly all the beekeepers except those having langstroth hives and are selling honey to their co-operatives are involved in some form of semi-processing. However, while assessing honey quality management activities; there are high possibilities that at this stage the quality of honey is highly compromised through inclusion of foreign substances and impurities, poor unhygienic handling techniques and malicious beekeeping entrepreneurs.

iv. Primary Transportation:

Some honey is bought at the farm gate especially by middlemen /bulking agents who purchase directly from the beekeeping entrepreneurs. However, some beekeepers transport raw honey from the farm to a nearby bulking centre which in most cases comprises a co-operative society plant or local retailers. Primary transportation mostly involved packing the raw honey in plastic containers for those with traditional /KTBH or carrying the entire super chamber for farmers using the langstroth. The most common form of transportation is bicycle.

v. Primary Collection, Bulking & Semi-Processing:

This function involves three main players; the co-operative societies, local retailers and commercial bulking agents (middlemen). The process of collection and bulking are critical

⁸ Beekeeping Baseline Survey covering 17 high potential districts in Rwanda undertaken in 2008 by SNV Rwanda (contained as Annex 1)

⁹ These are the 4 zones that are covered by the beekeeping strategy 2007 – 2012.

¹⁰ Optimal estimates are based on the self-documented experiences in Kenya.

functions in the marketing chain as many secondary markets require large quantities of honey. Co-operative societies such as CAR, KOPAKI, UNICOAPIGI and CESAPI are popular honey collection and bulking centers and comprise the largest market of honey in the production zones /sectors. Some, para-professionals, local and external honey traders are also major players in this function although their presence is not felt as much as the co-op societies and their numbers are minimal. These actors buy honey – either in crude or semi-processed form from beekeeping entrepreneurs as well and collect from their apiaries, package it in graduated plastic containers (mostly 500 and 1,000 grams) Sometimes honey is sold in recycled beverage bottles. Currently, the average buying price for a Kg of honey from the farmer ranges from RWF 1,000 – 1,400 (US\$ 1.6 – 2.3) At this stage it is filtered, packaged and sold at between RWF 2,200 – 2,500 (US\$ 4 - 4.5).

vi. Secondary Transportation:

Secondary transportation forms the link between the collection points, honey refining and packaging centers (Honey Processing Companies) and /or the end markets which comprises of domestic consumers based in Kigali and large towns. Local bulking agents /middlemen, CAR and KOPAKI rely heavily on public transport. Transport remains a core challenge especially when it has to be organized for huge volumes to larger Honey Processing Centers (HPC) in Kigali.

2.4.2 Middle Tier Functions and Actors:

vii. Secondary Bulking, Refining and Packaging:

This involves further refining and packaging by medium and large honey processing companies for example CESAPI who purchase honey from farmers as well as from co-operatives. The processing at this stage is advanced unlike in the primary processing function.

viii. Distribution:

This is the wholesale /retail level within the value chain and it comprises large retail stores for example Nakumatt and Simba. Nakumatt stores purchases processed and packaged honey from secondary processing agents while Simba stores was found to be directly purchasing honey from one of the primary co-operative unions in Gishwati.

2.4.3 Top Tier Functions and Actors:

ix. Certification:

Certification is a function of the Rwanda Bureau of Standards (RBS) a public institution established by Rwanda Government Legislation No. 03/2002 of 19/01/2002, to undertake all activities pertaining to the development of Standards and quality assurance in the country. It is the only body mandated with powers to define and assess national standards. Public service entities and public or private firms must present their standards to RBS for adoption at national level.

Effective systems and structures are underway that will in the near future see RBS mainstreamed as a key player within the honey value chain. This will position RBS to vet, certify and standardize honey being produced in the country as well as that intended for export. RBS emphasizes on production of good quality honey and has clearly outlined the desired properties by which honey producers, refiners and exporters have to adhere to get certification. According to RBS, good quality honey should have the following properties:

Verifiable Indicator:	Acceptable level:
Moisture content	Not more than 20%
Fructose and glucose content	Not less than 60g/100g
Sucrose content	Not more than 10g/100g for most trees and flowers except lavender which should not be more than 15g/100g
Water insoluble solids content	Not more than 0.5g/100g
Heavy metals	Not exceeding the maximum levels as per the Codex Alimentarius Commission
Pesticide residues and veterinary drugs	Not exceeding the maximum levels as per the Codex Alimentarius Commission

Table 5

Source: Revised CODEX Standard for Honey

Its honey inspection and certification guidelines continue to state that all honey intended for human consumption should comply with existing microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997), the CODEX Standards Issue No. 12 of 1981 - Rev (2001).

RBS is working closely with RARDA and other development partners to ensure that effective and sustainable guidelines for honey production, handling, processing, storage and transportation are established. These guidelines will ensure that once RBS is mainstreamed into the honey value chain, honey coming from different parts of the country will meet the required minimal standards thereby expanding the markets further even to levels of export.

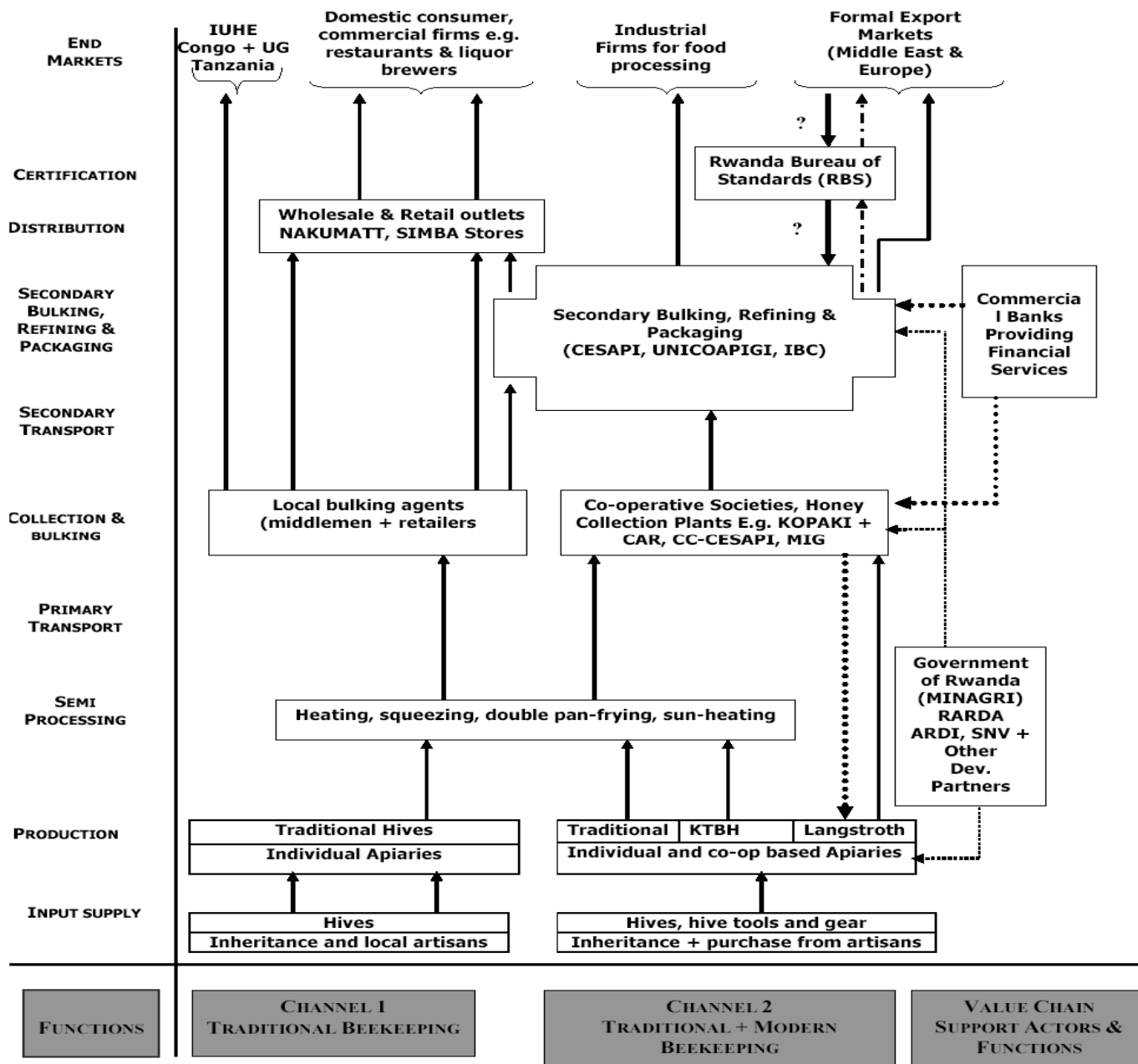
x. End Markets:

The end markets mostly comprise the eventual consumers of honey. These include but are not limited to domestic consumers, who use honey as a table food, industries that use honey as a food processing or preservation agent.

2.4.4 Supplementary Value Chain Functions and Actors:

This tier mainly comprises of actors involved in the supportive functions of beekeeping sub-sector but who do not directly or indirectly handle the commodity. Their functions are critical to the growth and development of the beekeeping sub-sector whereby without them the sub-sector would not function effectively especially in the production and processing elements.

2.5 The Beekeeping Value Chain Map:



3. THE BEEKEEPING VALUE CHAIN FINANCE ANALYSIS:

3.0 Introduction and Relevance of Value Chain Finance:

What is value chain finance?

To enhance our understanding of value chain finance we need to recall the definition of value chain analysis; it is from this definition that a clear understanding of VCF can be enhanced. The Value Chain Finance (VCF) involves analyzing the financial needs of actors participating in a value chain, understanding how these needs are being met, by whom and what are the underlying terms and conditions to access. This assists value chain actors to identify available and potential opportunities on which they can capitalize on to enhance their own performance.

This approach is also based on the understanding that the performance of one actor within a value chain has a consequential effect on the entire value chain and that, different actors or tiers of actors have varying financial needs and requirements depending on their background, functions and level of influence within the value chain. This necessitates the approach to analyze a sub-sector from a holistic point of view not just focusing on a particular segment or cluster of actors.

The study was carried out to inform sub-sector actors about the financial dynamics of the sub-sector from three main perspectives; one, to understand the financial needs of actors within the value chain (this constitutes the demand side); two, to identify and assess currently existing or potential opportunities in terms of financial services (constituting the supply side) and three to analyze the existing disconnect between the demand and supply side of financial services with a value chain and how to address this gaps. Adequate knowledge on the financial dynamics of the beekeeping /honey sub-sector will help to inform SNV on effective avenues of broadening and deepening her interventions through developing sustainable approaches at critical points or across the entire value chain.

This section outlines the existing financial needs (the demand side) as well as various institutions that are currently providing financial services (the supply side) within the value chain. In assessing this demand, it discusses the social and economic profiles of actors, their needs in terms of average loan amounts, desired against existing terms and conditions to quality for loans. Section 3.2 discusses the supply side of financial services highlighting the key actors, available products and services, requirements, terms and conditions and in some cases some illustrations of the participation and performance of various actors in accessing or providing financial services. The value chain finance approach will help SNV to capitalize on strengthening existing relationships and linkages currently in existence as well as identify potential linkages that can be created to enhance performance of the beekeeping sub-sector.

3.1 The Demand Side of Beekeeping Value Chain Finance:

The study sought to answer one critical question; is there demand for financial services within the beekeeping value chain? The response was an overwhelming "yes" across the three tiers with all participating actors expressing lack of adequate, available and sometimes affordable credit as a major challenge towards growing their businesses. The needs, challenges and opportunities of actors were diverse depending on their function and level of participation along the value chain.

The financial needs and demand assessment of the VC actors was carried out along four main parameters which comprised one, their socio-economic profile; two, qualitative and quantitative dynamics of their financial needs and desires, three their average loan amount required.

3.1.1 Input suppliers:

They are generally two categories of input suppliers for the modern KTB and langstroth hives and hive related tools. Local artisans based in the rural areas and who have acquired the knowledge and skills through experience, trial and error although some have limited training. The other input suppliers are semi-formal establishments based mainly in Kigali City. Their needs for financial services are limited especially because clients who need hives are required to make down payments which mostly cover the cost of materials and part of the labour.

3.1.2 Honey Producers/Beekeeping Farmers:

The honey producers comprise small scale subsistence farmer's mostly living around protected forest areas. In principal, they are peasant farmers and past surveys have shown that they earn under US\$ 1 per day thus categorized to be living below the poverty line¹¹. Many are affiliated to local co-operative associations although some carry out beekeeping individually mostly on traditional hives. Those who are in co-operative associations have common apiaries based in the forests with some participating in the common apiaries as well as practicing beekeeping individually.

Social Economic Profile:	Financial Needs Assessment:
<ul style="list-style-type: none"> - Beekeeping /honey production is mainly a male dominated activity (Ave. ratio men: women 4:1 respectively); - Very few have bank accounts with mainstream banks /MFI (a good percentage only have accounts with co-op associations); - They do not have a savings culture (many times there is nothing to save); - Ratio of men: women: youth is on average 4:1:1 respectively; - Majority are semi-literate; - Earn less than US\$ 1 per day (usually spent on meeting basic needs); - Most have at least 1 individual traditional hive in addition to the common apiary; and - Only available physical collateral is land. 	<p><u>Expressed financial needs:</u></p> <ul style="list-style-type: none"> - Average loan requirements for purchasing additional hives for increased production RWF 78,000 – 125,000 (US\$ 139 – 223); - Short term loans where repayment is pegged on harvest; <p><u>Perceived needs¹²:</u></p> <ul style="list-style-type: none"> - Income to satisfy basic needs; - Sensitization on the importance of operating individual bank accounts, regular savings and building a financial profile with MFI/Banks; - Intensive capacity building on credit application, management, repayment and basic arithmetic on calculating interest, repayment installments among other areas

Table 6
Source: Field Investigations May, 2009

At this level, loans to purchase modern hives were identified as the main financial need in terms of credit requirements. The retail price of a complete modern hive ranges from RWF 25,000 – 35,000 (US\$ 44 – 63). The average loan requirement is based on acquiring 3 such hives. It is of great importance to appreciate that most beekeeping farmers are living below the poverty line

¹¹ The United Nations Development Program Absolute Poverty Assessment Benchmark (APA Benchmark)

¹² Perceived as observed or in the opinion of the study team

thus primarily require a means to meet their basic needs. This illustrates an underlying but fundamental financial need.

A rapid assessment into the direct financial benefits accrued from the common apiary in 2008 revealed that most did not get any monetary value from this arrangement but got some benefits for example having the statutory health insurance cover worth RWF 500 (US\$ 0.89) paid. 1 out of 4 co-operatives reported having shared out a dividend of RWF 1,500 (US\$ 2.7). Many however confirmed to receiving at least RWF 500 on a regular almost daily basis from other activities for example providing casual labour, selling farm produce for example bananas and potatoes. This exposes an opportunity for building a financial profile with financial institutions (MFI/Commercial Banks) by regular savings which could be weekly or bi-monthly. Financial institutions that participated in the study were categorical that a financial profile is not build on amounts i.e. size of deposits and withdrawals but on consistency, demonstration of regular cash flow, willingness to save and financial discipline.

3.1.3 Primary and Secondary Collection and Bulking Agents:

These mainly comprise farmer co-operative associations (also acting as honey collection centers), retailers and middlemen. These entrepreneurs purchase honey from individual beekeepers in small quantities ranging from 1 – 20Kgs for bulking, packaging and resale to distributors (retail stores and business outlets), end markets or secondary bulking agents for example CESAPI.

Beekeeping farmer co-operatives purchase honey from individual beekeeping farmers at prices ranging from RWF 800 - 1,500 (US\$ 1.4 – 2.6) per Kilogram of honey. ARDI (CESAPI) is purchasing honey from individual farmers at between RWF 1,200 – 1,400 (US\$ 2.1), KOPAKI at RWF 1,000 (US\$ 1.8) while CAR purchases honey at between RWF 800 – 1,000 (US\$ 1.4 – 1.8). The table below illustrates the major primary collection and bulking actors, their average buying price per Kilogram of honey, estimated volumes per year and required financial resources to purchase honey.

Collection & Bulking Actor:	Average Purchase Price /KG of Honey:	Annual Volumes Transacted (MT):	Required Capital /year (RWF):	Avail. Financial Resources:
KOPAKI	RWF 1,000	13	13,000,000	RWF 0.5 M – 1M
CAR	RWF 900	8	7,200,000	<300,000
Individual bulking agents	RWF 1,300	3.7	4,817,647	Not assessed
FAV	RWF 1,500	4.8	7,200,000	>/=2,000,000
CESAPI	1,300	10	13,000,000	10,000,000

Table 7

Source: Field Investigations, May 2009

The required capital per year is based on direct fiscal requirements to purchase honey. Other costs including operational costs, administration utilities among others are not taken into consideration but are estimated to be 25 – 50% of the required capital depending on the economies of scale, operational costs and efficiency, and destination of markets.

The difference between the available financial resources and required capital illustrates their average direct financial needs in terms of capital. The analysis overleaf discusses the socio-economic profile and financial needs of actors at this hierarchy of the value chain.

Social Economic Profile:	Financial Needs Assessment:
<ul style="list-style-type: none"> - Actors at this level of the value chain have stable financial profiles with all having bank accounts in financial institutions and commercial banks; - Their institutional outlook gives them more leverage thus increasing their credit rating; - Most have some form of collateral (social and physical); - Those at the primary level have challenges in management (organizational and financial), have limited capacity to assess viability of borrowing and effects on their profits/losses; and - Governance is a big challenge especially for the primary ones. 	<ul style="list-style-type: none"> - Require medium term (2-3 years) credit facilities for amounts ranging from RWF 3,000,000 (US\$ 5,357) upwards; - Those that are member based need sensitization on the importance of mobilizing more deposits from members to build financial muscle and reduce dependence on subsidies and borrowed funds; - Efforts need to go into emphasizing on technical issues like economies of scale, efficiency, costs reduction towards increasing profits; and - Of critical importance to these actors and dev. Partners is the reflection of how the VC can be modified to reduce the cash economy by stimulating synergetic linkages and relations between actors.

Table 8

Source: Field Investigations May, 2009

3.1.4 Distribution (Wholesale and Retailing) Actors:

Financial needs at this level are based on product, price and placement in the market. There are emerging concerns that honey from Rwanda remains uncompetitive in term of price despite being of higher quality than imported honey. This is also against the preference of consumers in major towns for local honey but the uncompetitive price limits its consumption in huge volumes. A crosscheck at one large-scale retailer showed that there is honey from Kenya and Tanzania selling in the Rwanda market and an informal discussion was initiated with an attendant to understand the general trends and market preference.

Comparison of local and imported honey prices:			
Honey Origin:	& Market preference (perception):	Price per KG:	Sell-out rate:
Rwanda honey:	- Very high competitive edge with most consumers preferring it over imported honey perceived to be of low quality	RWF 2,500 @ CESAPI RWF 3,000 – 4,000 @ large high-end retail outlets	Moderate but slower than imported honey
Honey from Tanzania	- Lower price, lower quality	RWF 1,800 – 2,000	Relatively high
Honey from Kenya	- Lower price good quality	RWF 2,200	High

Table 9

Source: Field Investigations May, 2009

The distributing agents shared that Rwandese honey is more expensive because of the high buying price from the bulking agents. They acknowledged receiving more enquiries about Rwanda honey and complaints from customers who thought that the stores were overcharging to make large profits due to the high demand for local honey.

Economic profile of distributing agents:	Financial needs:
<ul style="list-style-type: none"> - They are profit oriented entities and will sell any product as long as it is profitable and selling fast regardless of its origin, quality or price; - They appreciate the existing demand for local honey; and - Committed that if the price of local honey reduces at the source, they would transfer the benefits of this change to the consumers also help boost sales. Their profits are based on fixed percentages not on amounts. 	<ul style="list-style-type: none"> - Lower priced high quality Rwandese honey that has an edge in the market; - Higher profits from increased sales even if on a lower price (also because of their profit margin mechanism which is based on percentage); - High turn over of products as a result of increased sales.

Table 10

Source: Field Investigations May, 2009

3.1.5 End Markets:

From the value chain map the end markets are generally clustered into 4 main categories each with distinct needs, preferences and characteristics. These features are analyzed below as well as the cluster financial needs:

Cluster:	Actors Profile:	Financial Needs:
All actors at the end markets were found to have similar needs.	<ul style="list-style-type: none"> - Have heavy preference for local honey - Domestic consumers are convinced that local honey is too expensive; - Attach value to quality; - Commercial outlets are profit oriented and will sell any product that can generate profits (don't have an attachment to quality and origin): 	<ul style="list-style-type: none"> - Domestic consumers want low priced high quality honey; - Commercial outlets are profit oriented thus are on the look out for lower priced commodities that can add to their bottom line;

Table 11

Source: Field Investigations May, 2009

3.2 The Supply Side of Beekeeping Value Chain Finance:

This component of the study sought to comprehensively identify and assess if any, financial institutions, organizations, development partners, government institutions, private entrepreneurs currently providing or that have potential to provide financial services to the beekeeping value chain. A comprehensive analysis involves not only identifying the actors but also products, terms, conditions as well as the scale and scope of operations. The value chain approach was considered appropriate since it would provide useful insight about the participating actors, their relationships, functions, rules of the trade as well as identify emerging or potential leverage points for financial service provision along the chain.

Stakeholders at the input supply, collection and bulking (primary and secondary), refining and distribution functions identified lack of adequate capital as the main challenge hindering growth and development of their enterprises. This is against the evident considerable growth and expansion of the informal financial sector through an increase in microfinance institutions (MFI), commercial banks and other entities that are focused on providing financial services to informal small and micro entrepreneurs (SME) over the last decade. The financial services industry is estimated to have grown by 5.2% after the introduction of two foreign financial services providers

(Kenya Commercial Bank and South Africa's Blue Financial Services Limited)¹³. Co-operative societies have grown to a record 3,500 up from less than 300 in 1999¹⁴ while MFIs were in excess of 300 in the year 2006¹⁵. It was therefore a paradox, entrepreneurs were categorical that lack of adequate financial services especially credit remains the greatest stumbling block.

The study sought to identify available sources of financial services in form of credit, grants, and guarantee programs, terms and conditions of access, eligibility criteria, collateral requirements and arrangements, repayment periods, penalties for missed repayment instalments or default among others. Specific emphasis was placed on understanding the perception of the various financial institutions towards apiculture.

The findings were collected, analysed and clustered into three main categories base on the value chain. The three categories comprised the macro, meso and micro levels which can be equated to the top middle and lower tiers of the value chain respectively. This categorization was based on the level and scope of operations, point of intervention and influence within the value chain and facilities offered.

3.2.1 Financial Services and Opportunities at the Macro Level:

The macro level actors were those considered to have a national focus, specializing in institutional development and support. The main actors identified at this level included government institutions and agencies (Ministry of Agriculture, Rwanda Development Board) and development partners /private sector players who included (TROCAIRE, Terrafina, International Finance Corporation, and International Labour Organization - Co-op Africa).

i. Ministry of Agriculture (MINAGRI) /RARDA:

The vision of MINAGRI is to modernize agriculture and livestock to achieve food security in Rwanda. One of the key pillars of this vision is the transformation of agriculture from subsistence to a productive high value; market oriented farming that is environmentally friendly and has an impact on other sectors of the economy. To support this vision it has defined 10 thematic areas of focus which cover diverse elements of agriculture development. Of these, thematic areas 2, 5 and 7 are directly targeted towards emerging enterprises for example beekeeping. They comprise diversification of income and employment sources for rural populations, organization, mobilization and capacity-building for producers and their organizations and creating an enabling institutional framework for the scaling up of producer organizations and modernization of agriculture in Rwanda. Development of apiculture is structured under the Animal Production Unit which falls in the docket of the Rwanda Animal Resources Development Agency (RARDA).

There are several initiatives that have been established to boost especially the emerging enterprises. These initiatives comprise the Rural Sector Support Project which aims at revitalizing the rural economy and improving the quality of life of the rural poor through increased transfer of technical financial resources for the sustainable rural development. Through these initiatives and partnerships with various partners it has established the Agriculture Guarantee Fund (AGF) worth RWF 1.1 billion (US\$ 1,964,285) that is managed by the National Bank of Rwanda (BNR). This fund is accessible to financial institutions (commercial banks and MFIs) that are involved in financing agriculture related activities. It guarantees 30-50% of the loan losses from bad loans and it is eligible for all activities and enterprises under the agriculture and livestock dockets.

ii. TROCAIRE Rwanda:

TROCAIRE Rwanda is a Catholic based development agency working with communities and institutions across the country to improve on-farm and off-farm activities to increase food security and provide financial services to the middle and low income earning rural communities. TROCAIRE

¹³ African Journals Printing Press, 2008

¹⁴ United Nations Development Program, 2007

¹⁵ Rwanda Microfinance Sector Assessment, 2007

is currently supporting 5 co-operative societies across Rwanda in strategic business planning and capacity building. Its assistance is normally channeled through its local partners mostly the Caritas affiliated organizations. Support is mostly given to MFI and farmer based co-operatives for institutional strengthening thereafter the co-operative are linked with the network of MFI where they can access credit facilities. Selection of the co-operatives /MFI for support was based on a study carried out in the microfinance sector that highlighted the 5 (DUTERIMBERE, RIM, UMUTANGUHA, UNICOAPIGI and as financial and other institutions with great potential but in need of technical support.

iii. Rwanda Development Board (Enterprise Promotion Department):

RDB EPD was formerly the Center for Support of Small and Micro Enterprises in Rwanda and its mandate is to offer Business Development Services (BDS) to promising enterprises that have numerous potential for growth and expansion. Currently, it is involved in provision of training and capacity building services to rural enterprises on technology, market intelligence and modern beekeeping techniques.

There are specific plans within the enterprise promotion department focused on establishing a business incubation facility for beekeeping entrepreneurs and provision of modern beekeeping equipment. The criteria for selection and modalities of implementing these activities are still at the formulation stage and will be released later. On a broad scale RDB advances its credit arrangements through utilizing available guarantee fund activities mostly from the Government of Rwanda. The assistance is channeled through commercial banks.

3.2.2 Financial Services and Opportunities at the Meso Level:

Actors at this level were selected and categorised as such due to their scope of work i.e. focusing on institutional support as well as having products for individual entrepreneurs. They comprised the International Finance Corporation (IFC) – GEM program, Terrafina, commercial banks, ARDI, IBC among others.

i. IFC – Gender Entrepreneurship Market Program (GEMP):

IFC) - a member of the World Bank seeks to forge partnerships with commercial banks to support women entrepreneurs in Rwanda. Its main mandate is to reduce the multiple challenges experienced by women entrepreneurs' especially limited access to financial services from commercial banks. Through the GEM program, IFC has established credit lines where women involved in profitable businesses enterprises can easily access financial services through commercial banks upon its guarantee. The program has a capacity to provide a guarantee finance facility worth RWF 2 billion (US\$ 3,571,428). Currently only about 10% of the funds capacity is being utilized due to limited knowledge of its existence and lacking capacity of women entrepreneurs to demonstrate business viability. The guarantee fund can cover 40% of bad debts that were disbursed by the program.

ii. Terrafina:

Terrafina is a Dutch rural micro-finance organization founded and funded by three organizations; the Rabo Bank foundation, ECHO (Dutch NGO) and Oiko Credit. Terrafina's main objective is to support rural microfinance institutions to enhance provision of financial services to communities within their areas of influence. The organization intervenes in three broad areas which include one; capacity building for co-operative societies and MFIs; two, provision of small seed capital grants to young, emerging and promising co-operatives and MFI and three, disbursement of loans for on-lending to members, investment portfolios and expansion of branch networks in number and infrastructure. Initial assistance is usually through provision of a grant to a co-operative or MFI on a cost sharing /matching fund basis.

The interest rate in the loans to co-operatives /MFIs is varied depending on the disbursing banks but it ranges from 7 – 8% per annum. Terrafina has currently disbursed three loans and will be

issuing the forth one in June 2009. Eligibility to qualify for services revolves around ability to demonstrate potential and sustainability; organization should be based in the rural areas, demand-driven and aspiring organization and willingness to commit time and financial resources to the process which first focuses on building or strengthening capacities of the financial institutions then disbursement of the aforementioned credit programs.

iv. ILO Co-op Africa:

Although not yet well established in Rwanda, ILO Co-op Africa seeks to provide grant financing to co-operative societies based in the rural areas of Rwanda and that have viable, profitable and sustainable business projects. The grants to be issued on a competitive basis will range from RWF 10,000,000 to 28,000,000 (US\$ 20,000 – 50,000). To qualify applicants must be registered co-operative societies, based in the rural areas and must be able to demonstrate the viability, profitability and sustainability of the projects. Interested co-operatives must apply in the stipulated formats provided by the ILO Co-op Africa office and the applications are subjected to an assessment panel for vetting. Currently ILO Co-op Africa is working through the Rwanda Co-operative Agency (RCA).

iii. Commercial Banks:

Most commercial banks, especially those with branches in the rural areas were found to be providing financial services to actors within the beekeeping value chain. The scope of these financing arrangements was mainly institutional i.e. support of microfinance institutions and co-operatives through provision of savings and credit facilities. Their influence in the beekeeping value chain is felt mostly at the middle and upper bottom tier. In the middle tier, commercial banks have credit products and arrangements to finance collection and bulking of honey. As such many farmer co-operatives have benefited from this arrangement some of which include CAR, KOPAKI, UNICOAPIGI and FAV.

Banque Populaire and FINA Bank:

To qualify for a bank loan a client (including MFI & Co-operative) must have held an active bank account with the bank for 3 months prior to applying for a loan from Banque Populaire (BP) and FINA Bank (FB). For BP, the client has to have invested 20% of his personal funds in the project for which he is applying a loan for, must be of good moral standing and integrity in society. All loans from commercial banks must be secured using physical collateral and co-operatives must have a strong share capital. Acceptable collateral usually includes houses, land deeds and in event of loan default, the agreements are reinforced through the local government channels. Banque Populaire (Kirehe) had at the time of the study disbursed RWF 228,214,012 (US\$ 407,525) worth of loans to 1,741 farmers with the average loan amount being RWF 131,082 (US\$ 234).

Interest rate ranges from 13 – 16% depending on the product and the purpose of the loan. For agri-based projects the interest rate is 13 - 18% (BP) and average interest rate for FB is 18 - 20%. The effective annual rate for commercial is however estimated to be 4-6% above the stipulated rate thus ranging between 13 – 24% once additional loan costs¹⁶ are taken into consideration.

It is the opinion of most commercial banks that actors at the production level of the value chain are generally not fit for credit. This is mainly due to their lack of savings facilities with the financial institutions and inability to satisfactorily demonstrate viability and feasibility of beekeeping. The average loan amounts range from RWF 500,000 – 10,000,000 (US\$ 892 – 17,857,142). The loan term varies 6 – 24 months for BP and 12 – 36 months for FB. Moreover, the target clientele of these two institutions differs greatly as BP seeks to work even with the

¹⁶ Additional Loan costs include charges levied on financial institutions to process a loan which include loan application and processing fees,

informal, middle and low income earners for example farmers while FB has an edge and preference for formal clients for example middlemen and distributing agents.

Development Bank of Rwanda (BRD):

The Development bank of Rwanda is a government owned financial institution operating as a commercial bank but focusing on providing services to enterprises (micro, small, medium and large) that have the potential to contribute to the economic development of Rwanda. BRD also provides technical assistance and advisory services to its clients on how they can add more value and maximize their profits from business thus does not focus on credit only. There are many products and services offered by BRD which range from medium to long-term loans (3 – 10 years) for medium and large enterprises with a minimum amount of RWF 5,000,000.

The bank has recently established a micro-finance department that focuses on financing co-operative societies and MFI that are providing financial services to the middle and low income earners. In addition to credit, BRD also provides capacity building services to the participating MFI and co-ops and assists them in adopting the identified best practices in microfinance for their sustainability.

Loan terms and conditions are dependent on source of funds but generally range from 8 – 12% per annum on reducing balance. All loans are disbursed against physical and social collateral where the applicant must have assets that they can pledge for example buildings, land as well as a social guarantee from the clients undertaking to repay the loan should their financial institution fail. The client must also be willing and ready to commit 50% of their own resources into the initiative. This facility is available for all legally existing, registered and authorized micro finance institutions and co-operative societies.

iv. Rwanda Association for Integrated Development (ARDI):

ARDI¹⁷ was established in 1983 as a non-governmental organization and it was mandated with the responsibility of coordinating apiculture activities in Rwanda. ARDI has been involved in sensitizing beekeepers on modern bee farming techniques as well as sells langstroth hives at subsidized prices to member associations across the country on a part-credit basis. Through its efforts numerous beekeeping co-operatives and farmers have received hives and are repaying in kind through honey.

Through its hive leasing program, beekeeping farmers can acquire modern hives upon payment of 50% of the hives value. Payment is made in kind from the harvested honey where approximately 20% of it is utilized for repayment for the hive. The beekeeping farmers are required to pay only 50% of the hive value which is subsequently used as a revolving fund. ARDI established a commercial wing in 1988, the Centre for Apibusiness (CESAPI) whose mandate was to promote market oriented honey-production in Rwanda. CESAPI has established linkages with co-operatives and has set up and equipped 28 co-operative managed honey collection centers mainly in Nyungwe, Akagera, Mukura and Gishwati. CESAPI from time to time advances money to co-operatives for the collection and bulking of honey.

3.2.2 Financial Services and Opportunities at the Micro Level:

i. Co-operative Societies:

Co-operative Societies are the closest financial service providers to beekeeping farmers in Rwanda. A cooperative society is an enterprise owned and managed by an association of persons with the objective to satisfy their common needs (accessibility to products or services, markets (selling their products and services) and income generation among others. They are found at the farmer level although their main involves is collection, bulking and packaging. Most co-operatives are not serving the entire mandate of a co-operative society which is to provide financial and non-financial services due to their inability to mobilize deposits from members. Most beekeeping co-

¹⁷ Translated from the French version “The Association of Rwandaise Pour la Promotion du Development Interagre.”

operative are involved in bulking and only one, Virunga Farmers Association (FAV) was found to provide modern hives on credit to its members.

ii. Microfinance Institutions (MFI):

There are many MFIs providing financial services to beekeeping farmers across Rwanda. MFIs are popular due to their deep philosophy, commitment and willingness to bank with the poor. Co-operative societies have bank accounts with MFIs and mostly enjoy credit facilities from them. The study identified Vision Finance (VF), COOPEC Iriba (Gicumbi). The MFIs have more on-the-ground credit programs that beekeeping and the greater agricultural farmers can identify with due to their harvest-based cash flow and flexible repayment periods.

Vision Finance:

VF is a MFI founded by World Vision International. It provides credit facilities to co-operative associations as well as to individual members through registered self-help groups. Although they remain sceptical about lending to agri-based individual projects they have a huge credit portfolio with co-operatives that are involved in coffee, beekeeping (have disbursed 2 loans already), maize farming. VFs experience with beekeeping co-operatives is that their repayment trend and patterns are not stable. Both co-operatives are behind schedule on repayment thus attracting huge penalties due to missed instalments.

To qualify for a loan from VF a farmer /co-operative association must have a viable IGA, must be of integrity in society and should have good credit history with VF and other financial institutions in the area. In addition to this the IGA must be in existence for more than 6 months, individual loans must be secured (acceptable collateral is land deeds and household items) while for solidarity group loans the main collateral is social capital (group guarantee system).

For individual loans the loan amount is based on a graduating system where the 1st loan is usually RWF 30,000 – 80,000 (US\$ 53 – 142). The repayment period ranges from 6 – 12 months and upon successful repayment the client qualifies for a higher loan amount ranging from 500,000 – 2,000,000 (US\$ 892 – 3,571). The interest rate for individual loans is fixed and is currently at 2% per month thus translating to 24% per annum. For solidarity groups the initial loan amount per person is RWF 250,000 (US\$ 446). It is advanced at an interest rate of 2.5% per month (30% per annum) with a repayment period of 6 – 12 months. The interest for individual loans is higher due to the high risk based on the principle that they are not secured by physical collateral.

COOPEC Iriba:

COOPEC Iriba is a deposit taking MFI based in Gicumbi District and has been working in the region for more than 5 years. It has lent money to several beekeeping farmer co-operatives but none of the outstanding loans is on schedule. Most loans are past due almost getting to a level of default. For example one beekeeping co-operative borrowed Approximately RWF 2,200,000 in 2007 to assist in the collection and bulking of honey. To date only less than half of the initial loan amount has been repaid thus leading to numerous missed instalments and attracting huge penalties. It is such scenarios that compel MFIs to avoid lending to co-operatives due to their lack of commitment to contracts and agreements.

To qualify for a loan at COOPEC Iriba, a client must have been a member for at least 1 month must have saved the minimum amount in shares RWF 5,000 (US\$ 8.9) and should have physical collateral for the loan in form of land, house or other household items.

Réseau Inter-diocésain de Microfinance (RIM):

RIM is a rural MFI established by the Catholic Church in Rwanda through its development arm CARITAS. It works with communities through their associations (either self-help groups or co-operatives) and is lending money for agro-based activities for example seed multiplication, tilling and other activities. The minimum possible loan amount is RWF 50,000 (US\$ 89) while the maximum is RWF 500,000 (US\$ 892). Repayment period and installments are dependent on the

nature of activities being financed but ranges from 6 – 24 months. The interest rate for loan products is 1.5% per month - flat rate that translates to (18% pa).

To qualify for a loan a farmer should belong to either an association (at least 7 members) or a co-operative and must have been a member for more than 1 month. The client must have good moral standing in society, must be guaranteed by at least 5 members of his cell /association and should provide some form of collateral. Group guarantee is sufficient but for larger loans the client may be required to provide physical collateral (house, land or other items).

3.3 Existing Capacity Gaps in Accessing Financial Services:

This section details the study's findings from the field discussing the beekeeping /honey value chain actors in terms of their strengths, weaknesses and potential opportunities that are not being harnessed to achieve maximum impact and results from the enterprise. It assesses the current vis-à-vis the desired status that could place them at more advantaged positions to enhance their gains from participating in the sub-sector. In so doing, this report seeks to inform supporting actors in the sub-sector about the existing challenges towards effectively accessing financial products and services, potential interventions and activities that can help change this set-up.

This is based on the cross-cutting opinion that the sector is largely underperforming due to the current lack of financial services. That lack of available, adequate and affordable financial services can limit the performance of a sub-sector is absolutely true. However, this study identified several opportunities and facilities ranging from grants to low-interest credit facilities that can be tweaked to provide financing for actors within the value chain thereby refuting the deeply entrenched statement that there is an evident lack of financial services and providers.

The challenge therefore remains to critically analyze actors' profiles, sub-sector dynamics and linkages in attempts to identify factors that have led to the large disconnect between financial institutions and chain actors especially those at the bottom tier of the value chain. The analysis is rather biased towards the co-operatives because members form or join them to access financial and non-financial services while it is the very co-operatives that in one way or other limit the members from accessing these services and products. This is also for the fact that individual beekeepers are not likely to receive financial services from commercial banks except through their associations.

3.3.1 Perception of financial institutions to beekeeping:

Based on the past performance of beekeeping as an indigenous activity mostly based on traditional hives which are evidently low yielding, financial institutions lack sufficient confidence in the sub-sector and actors (beekeeping farmers). The low confidence is mainly based on lack of a means or evidence to demonstrate economic gains realized from beekeeping. This is orchestrated by the underlying fact that there have been very little or no economic gains for participating actors especially the farmers from beekeeping as yet. This does not necessarily imply that beekeeping is not a viable business enterprise. Rather, it is due to the background, scope and the limited focus by beekeeping farmers that limits performance of the sub-sector.

The perceived background is such that beekeeping is a traditional activity passed down generations, for men and old people who brew traditional liqueur. The current scope and potential of beekeeping as an IGA is limited due to over reliance of beekeepers on common apiaries. In general beekeepers lack a definite focus in appreciating apiculture as a commercial-profit oriented business enterprise thus put little efforts into it and appreciate whatever little that comes from it.

The problem is made more complex by the fact that the beekeepers lack sufficient knowledge and skills to prepare basic supportive illustrations for example business plans and feasibility studies that would assist in justifying viability of the enterprises.

The fact that no “mainstream beekeeper” or group of beekeepers (at individual level – not co-operative) has opened and maintained an active bank account goes further to confirm their thoughts that it is not a viable enterprise to invest their capital in.

3.3.2 Lack of reliable financial profiles:

Most beekeeping farmers only have accounts with their co-operative societies while the vast majority does not have bank accounts. For those that have accounts with the co-operative there is little evidence or traces of financial transactions on their accounts. Any income into the account is mainly from the co-operative from dividends being shared out at the end of the year from the sale of honey. The lack of a savings culture among beekeeping farmers even for income received from other activities apart from beekeeping robs them of an essential asset when it comes to accessing financial services; a financial profile. A statement that indicates regular cash flow regardless of the amounts involved¹⁸ forms a strong case when negotiating for a loan on the client’s side and supports the application when appraising the loan on the financial institutions side.

Most commercial banks and MFI institutions require that client to have banked with them for periods of average 3 – 6 months for them to qualify to apply for the available credit facilities. This is to enhance the banks knowledge on the client income, saving habits, cash-flow and other factors that are crucial when appraising a loan. This is usually referred to as a financial profile which most beekeeping farmers are currently lacking.

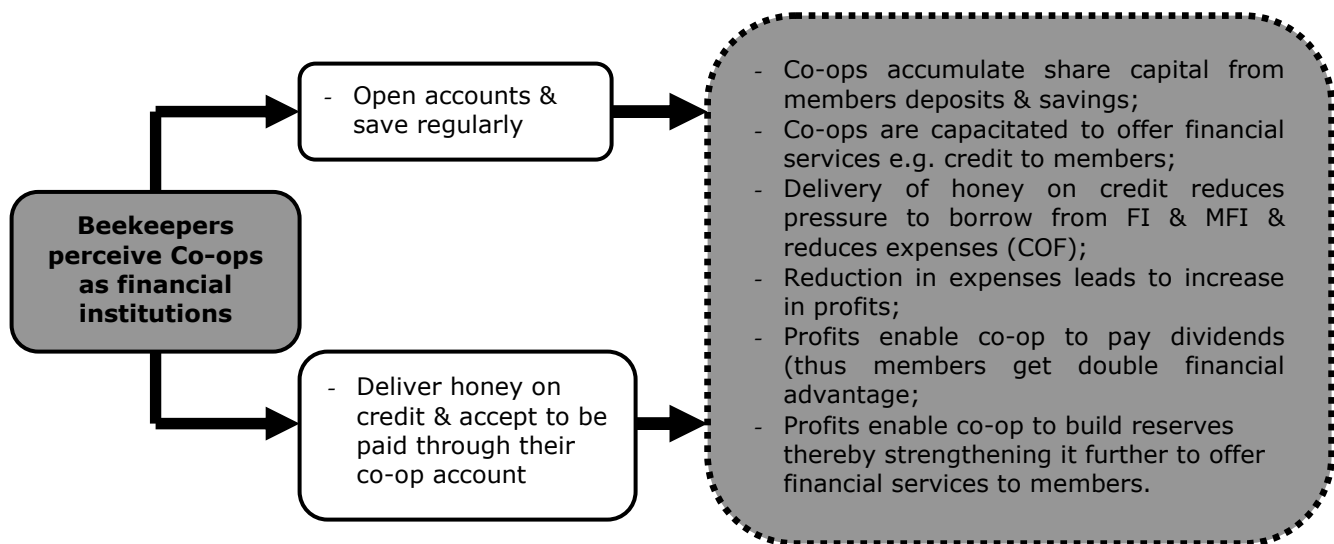
3.3.3 Weak financial capacity of the co-operatives:

In principle, a co-operative society is established to provide financial and non-financial services to its members. The primary source of finance for a co-operative and its activities is the members’ funds (share capital /equity) which is realized from savings and deposits by members in small amounts and accumulated over long periods of time. The more share capital and members deposits mobilized, the stronger the co-operative becomes.

The lack of a savings culture by members in their co-operatives leads to the existence of weak co-operatives with very low share capital. This denies members the very essential services they were seeking when they joined the co-operative. Principally the only function being performed by the co-operatives is that of collecting and marketing honey. Even the registered members, they prefer to be paid in cash upon delivery of honey as opposed to the prudent “credit system” (where the worth of honey delivered would be credited to their account); this would provide the co-operative even more leverage to purchase larger quantities of honey from individual honey producers thus increasing the volumes which would directly translate into increased profits.

The illustration overleaf illustrates what needs to be done to strengthen the farmer co-operatives.

¹⁸ This statement was confirmed by all participating financial institutions.



Share capital and members deposits assist a financial institution for example a co-operative in developing member-driven credit products. These products can be utilized by members when they need to either grow or expand their businesses since for members of a co-operative, access to loans is much easier and many times cheaper as compared to other financial institutions. The members personal reluctance to savings limits them in accessing financial services because on one hand the co-operative lacks enough capital to provide credit to the members while on the other lenders (commercial banks and MFI) will check the co-operative societies share capital as the first indicator when appraising a loan application. Sensitizing and mobilizing members to save regularly with "their" co-operative would build a strong share capital base. The accumulated share capital may be used to finance individual members in acquiring additional hives towards setting up individual apiaries which would in turn lead to increased production. This would also greatly reduce the current widespread practice of co-operatives borrowing from MFI and commercial to finance collection and bulking activities.

3.3.4 Leadership, management and governance issues:

The internationally recognized co-operative principles define a co-operative society as an autonomous legal entity that is member owned member run and member managed. This philosophy poses numerous challenges to co-operatives especially those located in rural areas where majority of the membership is semi-literate. Most rural based co-operatives do not have adequate resources to hire qualified and competent staff thus leaving their management in the hands of committee members who lack sufficient knowledge, training and skills. This brings in serious leadership, management issues and governance issues within the co-operatives. Consequently, this leads to lack of informed decision making, poor planning, financial mismanagement and embezzlement of funds which in turn translates to reduced member confidence in the co-operative as well as reduced confidence by financial institutions.

There have been many experiences where co-operative societies acquired loans from commercial banks and MFI and have missed many repayment installments almost to the point of default. These experiences only help in straining the relationships with financial institutions thus reducing their confidence in co-operative societies.

3.3.5 Inadequate institutional systems and structures:

These include poor record keeping skills and practices, lack of well structured follow-up and recovery mechanisms for credit, missing internal controls, policy manuals clearly describing the roles and responsibilities of committee members (each office bearer), the roles of members and to guide general decision making and lack of basic essential ICT services in their operations which

would simplify every thing and help the management committee run the co-operative much more easily.

3.3.6 Limited involvement of women and youth:

The current level of involvement of women and youth remains alarmingly low. Beekeeping is currently a male dominated activity mostly carried out by elderly people (above 45 years of age). While they may be deeply entrenched in traditional schools of thought about beekeeping, women and youth are more likely to appreciate the importance of bringing in a business focus to beekeeping for income generation. Women and youth are flexible, energetic and more likely to engage personal resources to enhance production and appreciate the importance of having essential assets for example bank accounts that could assist them get loans to grow and expand the business.

Further, elderly people are more inclined to income while young entrepreneurs and women would with a little sensitization and training be more focused on “profits” rather than income. This is a critical element if beekeeping is expected to improve the economic livelihoods of participating members. A profit oriented mindset would seek to assess level of input vis-à-vis the realized benefits which would trigger the members to think harder as to what can be done to develop the enterprise to make it worthwhile and economically viable or to desert it all the same.

3.3.7 Lack of a business orientation to apiculture:

The national cross-cutting approach to beekeeping is evidently more social than business oriented. The high dependence on common apiaries as a source of income, lack of records to illustrate performance (income, expenditure, profit/losses), contentment in receiving minimal amounts of money (RWF 2,000 maximum)¹⁹ from the co-operatives annually as reward for their “all-year” contribution, lack of innovation and critical thinking to increase production and reluctance of individual members to position themselves adequately to borrow from MFI and commercial banks are just some of the factors justifying that beekeeping is still too socially inclined.

The lack of records (even of the common apiaries) and inclination of members to income rather than profits are just some of the factors that justify the “social rather than business” orientation to beekeeping.

3.3.8 High-risk perception of beekeeping:

Beekeeping is categorized as an agri-based activity which in the perception of financial institutions that participated in the study is too risky. Commercial banks are known to shun lending to agri-based activities due to the high level of risks associated with “farming.” This is because farming in Rwanda is still more subsistence than commercially oriented. Numerous assessments have been carried out on subsistence farming and have justified that it is not viable to carry out this level and scope of farming on borrowed funds. The yield is too low also because subsistence farming is targeted for consumption within the family not for sale.

The absolute lack of records showing the trends, performance, income and profits realized from beekeeping only helps to push banks further away from lending to beekeeping farmers. All participating financial institutions expressed that they were willing to lend to beekeepers but none has ever presented a written feasible and viable case for consideration. A basic business plan would illustrate the investment, input (labour and other) the expected yield, selling price of yield and anticipated profits. This should then be justified by a bank profile where the farmers can justify the figures. Financial institutions thereby lack a basis on which to appraise the loans

¹⁹ This was the highest reported dividend received by members of a beekeeping co-operative as income from the common apiary. This co-operative is paradoxically having repayment problems with one financial institution.

applied for direct beekeeping activities preferring to lend to the co-operatives for collection and bulking activities.

3.4 Recommendations to Address the Existing Capacity Gaps:

Existing Gap:	How to address:	Expected Results:
1. Perception of financial institutions to beekeeping:	<ul style="list-style-type: none"> - Sensitize producers on importance of using modern hives; - Building the capacity of producers to keep records that can demonstrate viability; and - Open and maintain bank accounts with FI & MFI even on proceeds from other IGA to illustrate regular reliable income. 	<ul style="list-style-type: none"> - Increased desire to acquire modern hives; - Increased production of honey thus increased income; - Producers develop a savings culture (either in their co-operative or in other financial institutions); - Active bank accounts enhance clients' credit ratings hence ease the loan application and appraisal processes.
2. Lack of any or reliable financial profiles:	<ul style="list-style-type: none"> - Encourage the development of a savings culture. 	<ul style="list-style-type: none"> - Reliable bank statements act as the number one reference to a client who needs financial services (participating FI and MFI were categorical that profiles are not dependent on size of transaction but on the discipline of saving).
3. Weak financial capacities of the co-operatives;	<ul style="list-style-type: none"> - Encourage honey producers to establish and build the already existing co-operatives into strong financial institutions that can provide financial and non-financial services to members. 	<ul style="list-style-type: none"> - Co-operatives acting as financial institutions not just as honey collection centers; - Producers accessing financial services e.g. savings and credit from co-ops; - Producers extending credit services to co-op to reduce costs and increase profits; - Strong and profitable co-ops are more attractive to lenders thus opening avenues to access wider options for credit.
4. Leadership, management and governance issues;	<ul style="list-style-type: none"> - Capacity building directed towards the board members and staff of co-operatives; - Empowering members on the importance of electing focused and result oriented board members and to report cases of embezzlement and mismanagement to RCA; 	<ul style="list-style-type: none"> - Focused and trained board members managing co-operatives; - Members are also trained on their role in ensuring sound management of their co-op and actions to take against board members mismanaging the co-operatives; and - Co-ops with sound governance and management thus meeting their obligations on time.
5. Inadequate institutional systems and structures;	<ul style="list-style-type: none"> - Capacity building on basic effective record keeping; and - Assistance on a cost sharing basis for equipment for example computers to help streamline operations. 	<ul style="list-style-type: none"> - Co-operatives that have up to date records of honey deliveries, payments and well maintained member accounts; - Transparent and efficient transactions thus drawing members to save as well as attracting new members.

Existing Gap:	How to address:	Expected Results:
6. Limited involvement of women and youth;	- Sensitization and training.	- Women and youth are more energetic, creative and would have more inclination to profits rather than income.
7. Lack of a business focus to apiculture;	- Capacity building to change attitude, increase knowledge and skills as well as on business development.	- Emergence of enthusiastic and innovative beekeeping entrepreneurs not "beekeeping farmers with too many problems."
8. "High risk" perception of beekeeping as a loan project.	<ul style="list-style-type: none"> - Working with RARDA to assure FI & MFI that beekeeping is covered by the agri-based government issued guarantee funds as a risk mitigation strategy; - Assess other risk mitigation approaches for example encouraging farmers to engage in diverse IGA that can complement beekeeping activities on the farm. 	<ul style="list-style-type: none"> - FI appreciate that the perceived risk is already mitigated by the government guarantee funds thus they accept to lend to honey producers; - Beekeeping entrepreneurs with the knowledge and skills to formulate strong business plans that illustrate the potential of beekeeping as an enterprise.

Table 12

Source: Study Analysis

4. BEST PRACTICES FOR SUSTAINABLE BEEKEEPING VALUE CHAIN FINANCE:

This section discusses the current vis-à-vis the desired environment for a dynamic, demand and market oriented beekeeping sub-sector. The value chain finance approach does not limit itself to the direct supply or provision of funds to actors within a sub sector; rather it seeks to identify critical intervention points within the chain at which stakeholders can capitalize on to achieve positive results. Such capitalization could be in different forms such as developing programs of work, mobilizing other actors and partners to intervene at the identified points or committing resources to address the prevailing gaps and challenges.

Capital and financial services or the lack of these, usually tops the list of challenges for small-scale producers in any agricultural value chain. This is mostly due to financial institutions reluctance to work with the production based actors considering their social economic profile and more so that the product is not definite at the time of contract. However, mobilizing financial resources for provision to the participating actors by development partners would only help to increase dependency on subsidies and grants thus creating “virtual development.” This form of development is only short lived and collapses immediately after program phase-out since it is entirely dependent on on-going development interventions. A sustainable VCF approach seeks to understand relationships along the value chain, assesses visible and underlying constraints, identifies enterprise potential and seeks to mobilize financial institutions into providing services to enhance overall effectiveness and efficiency of the value chain. In using the VCF approach efforts are focused on a definite end; enhancing the competitiveness of producing actors and their enterprises within the value chain.

Section 4.1 discusses the best practices at program level which seeks to inform development partners on the underlying issues that need urgent critical thinking especially revolving around enhancing competitiveness of the production element of the value chain. Section 4.2 discusses issues that need to be addressed at the national level through building sustainable relationships among actors within the chain.

4.1 Best Practices at Program Level:

The best practices documented here are based on an assessment of the sectors performance, challenges and gaps that greatly inhibit its performance. They describe possible approaches that can be adopted to realize sustainable results. Some of the lessons have been borrowed regionally where they either failed to yield desirable results or surpassed the set targets as a result of their effectiveness. At program level several value chain financing proposals are recommended which comprise; focus on addressing the root causes rather than effects, encouraging beekeepers to participate in their own development, sensitization to shift to individual apiaries as opposed to the common, holistic capacity building, institutional capacity building and creating sustainable linkages. These six recommendations are discussed herein in each case providing a rationale and justification and where possible illustrating their success or failures regionally.

4.1.1 Focus on addressing root causes rather than effects:

Currently, several challenges are repeatedly cited as the greatest hindrances to the growth and development of beekeeping in Rwanda. They include over reliance on traditional hives and honey production methods, low volumes of honey realized, production of poor quality honey among others. While these remain key challenges to the development of beekeeping as a

commercial business enterprise there are three extremely critical underlying causes that lead to the current status quo. They comprise the attitude, knowledge and skills of the beekeepers. These three causes remain unaddressed as many efforts are directed towards tackling the more evident challenges for example quantity and quality of production, traditional beekeeping methods among others. In so doing, stakeholders continually and subconsciously try to address the effects rather than the root causes.

Attitude: The attitude of most beekeepers is such that they are “poor farmers with too many problems²⁰.” This has the direct effect of reducing creativity innovation and independence thus the cross-cutting observation that most farmers rely on the common apiaries rather than replicating the knowledge and skills they acquire from the co-operatives to their own apiaries where they even stand to gain more. The beekeeping farmers are content to receive RWF 500 – 2,000 per year as benefits from the common apiary; they consider this income but they do not consider the opportunity cost (time spent on the common apiary) among other factors.

Knowledge: Knowledge is lacking in many dimensions at the production function of the value chain. It is lacking in terms of advantages of having individual rather than common apiaries, availability and sources of capital, factors that cut beekeepers off from accessing financial services, apiary set-up and management, differentiating between income and profit from an enterprise and assessing the relative value of the project to the member. Of great importance is the lacking knowledge in the role of co-operatives in providing financial services (savings and credit) to its members and how the members can contribute to this level of operations.

Skills: Skills for example basic business planning, record keeping, financial management among others are evidently lacking thus limiting the ability of beekeepers to justify their business towards acquiring credit facilities. This study is a stepping stone towards addressing this.

To address these underlying challenges a medium to long-term (3-5 years) approach to programming is required that focuses on gradually changing the attitudes of beekeepers to stop considering themselves as poor farmers but as entrepreneurs with a means and resources to make money. Problems that involve change in attitude take a long time to yield results but if well designed yield sustainable results.

²⁰ Direct quotation from 2 farmers from different beekeeping zones

Underlying Problems:	Effects:	Desired results:
- Attitude and skills	- Perception of everlasting poverty; - Lack of business focus (income not profit oriented) + no records & financial profiles; - Poor beekeeping skills (potential to get 3 not 2 harvests); and - Cannot prepare strong cases (business plans) for submission to financial institutions.	- Changed perception drifting away from poverty; - Constant evaluation of benefits and re-thinking as to how they can increase these; and - Beekeepers present strong business cases to FI for consideration.
- Knowledge	- Preference for a cash economy & its contribution to incapacitating the co-op society to be a financial service provider; - The effects of lacking financial profiles to their accessing financial services.	- Beekeepers develop savings culture; - Co-op societies with strong share capital that can provide financial services to members as well as reduce external borrowing thus increasing profits;

Table 13

Source: Study Analysis

4.1.2 Encourage beekeepers to participate actively in their own development:

For any sub-sector to yield tangible results, its participants must be actively involved in bringing about change. To enhance the contribution and efforts of beekeepers requires that they enjoy economic benefits from the enterprise otherwise their motivation levels may start declining. Beekeeping has been found to be commercially viable but only if practiced at a scale of minimum 4-5 (modern) hives per beekeeper²¹. To attain this, beekeepers need access to affordable credit facilities and continuous capacity building. However, their financial dynamics and habits only contribute further to impoverishment and distancing themselves from accessing financial products and services.

Type of hive:	Ave. Production per hive:	Optimal Production at 2 seasons per year:	Ave. income (1 hive per year X RWF 1,200):	Average Income (4 hives X RWF 1,200):
Traditional	5.6	11.2	13,440	53,760
KTBH	10	20	24,000	96,000
Langstroth	14	28	33,600	134,400

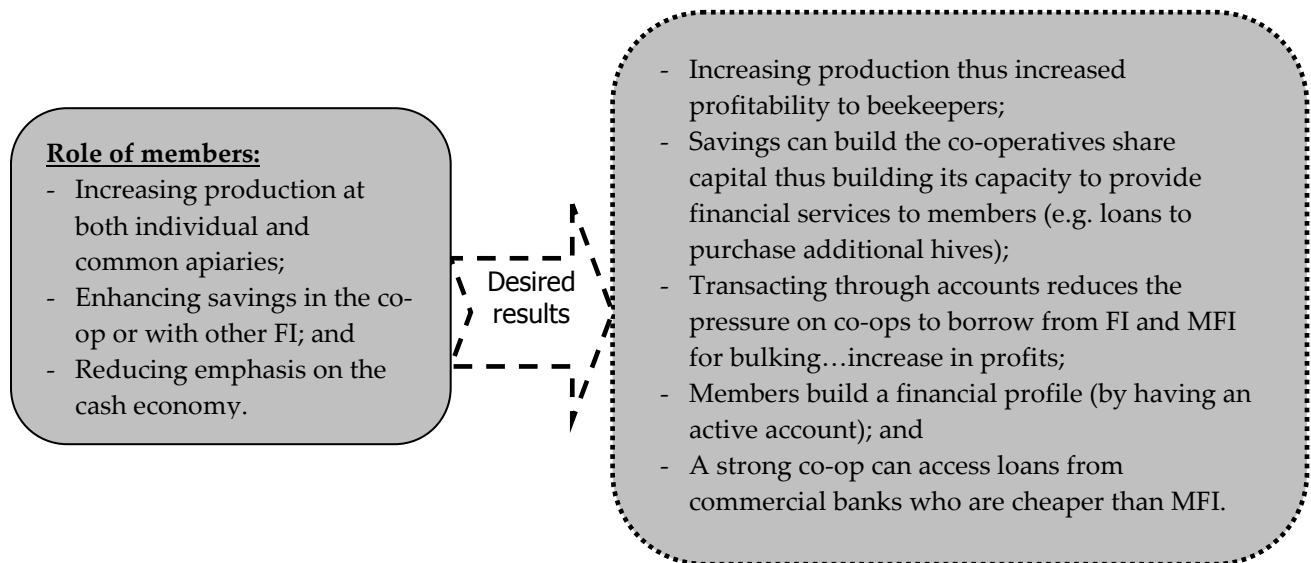
Table:14

Source: Field investigations May 2009

Communicating the above illustration and facilitating capacity building of beekeepers to appreciate themselves as business persons not farmers would enhance their inclination to the langstroth hive since relying on the other hive. Internalization of the profit element is critical as an entrepreneur does not only seek profit rather the maximum profit possible from his enterprise. This would sharpen their thinking to focus on maximizing profits by getting additional modern langstroth hives thus creating a need for financial services in terms of capital finance. Nonetheless, financial services do not necessarily have to come from commercial banks

²¹ Value Chain Analysis of Beekeeping /honey in Kinangop and Kakamega Districts of Kenya, July 2008

and MFIs; beekeepers have co-operatives at their very close range and there is need to build their capacity to appreciate these institutions not as social entities for beekeeping farmers but as financial institutions that can provide both savings and credit facilities to members.



This would involve sensitization about the importance of building strong share capital through increased savings (even if on a weekly basis and in small amounts). A strong capital would essentially open an opportunity where members can access low-cost credit facilities from their own institutions as opposed to the current dependence of commercial banks and handouts. This would increase the availability of credit as well as ensure that institutional growth would remain within their co-operative.

4.1.3 Encourage replication of knowledge from common to individual apiaries:

While common apiaries consolidate small-scale farmers into viable groups that can receive technical assistance and other services the main objective was to create demonstration centers that would illustrate the viability of beekeeping as an income generating enterprise. Moreover, common apiaries lack a concentrated business focus from the members especially being that most are set-up with grants and are located in the forest. In Kenya, the trend is to limit common apiaries to a maximum of 5 hives and encourage members to establish personal apiaries on their farms. Individual apiaries at the farm level draw more commitment from the members especially where the potential is known and the beekeeper is effectively trained on how to enhance production, position himself strategically to borrow by maintaining bank accounts and regular savings, the mindset is molded towards profit not just income and they are taught basic skills of apiary set-up and management.

In Kakamega forest (Western Province), the Kakamega Environmental Education Program (KEEP) was only able to realize 3 harvest seasons per year in the individual apiaries. To date the average number of harvest seasons from common apiaries remains 1.8 while individual apiaries have 2.5 – 3 harvest seasons per year. This change was heavily attributed to enhanced commitment to a personal than to a common apiary, strong desire of the farmer to make profits and illustration as to the current production and income potential against the actual being realized. Encouraging farmers to practice what they learn from common apiaries is a direct avenue to increase production and build on the entrepreneurial skills of the beekeepers.

4.1.4 Holistic double-edged capacity building of beekeepers;

Beekeeping is a technical activity that requires numerous training and capacity building. The training should cover all elements of beekeeping from apiary set-up, management, harvesting, processing and packaging. This would ensure that the beekeepers are well aware of what to do when setting up an apiary, how to attract bees, reduce and prevent absconding, strengthen colonies, queen rearing, and forage plants among other areas. Again, most efforts are directed towards changing the traditional focus of beekeeping to bring in a business orientation. There is therefore a great need to ensure that beekeepers are also effectively trained on business skills to build their acumen. Basic trainings on business planning, record keeping, management, savings and others help beekeepers with an entrepreneurship spirit to grow their businesses even through borrowing funds from MFIs and commercial banks. The urgent need here is to appreciate that api-business is a phenomenon integrating 2 backgrounds (apiculture and business).

4.1.5 Focus on institutional strengthening:

Beekeeping co-operatives have enormous potential to offer more financial and non-financial services to their respective members. However, their current capacity requires numerous support from technical persons and development partners where in strengthening the institutions we would be creating an enabling environment for these institutions to sustainably provide services to their members. Efforts into training the management committees on their roles, responsibilities, bookkeeping, leadership, governance and other areas helps these institutions become relevant to their own existence.

4.1.6 Sensitize farmers on the importance of increasing production:

The current price of honey in Rwanda RWF 2,500 (US\$ 4.5) per kilogram makes it uncompetitive in the market which has imported honey retailing at RWF 2,000 (US\$ 3.5) from Tanzania and other countries selling within the same range. While the price of Rwandese honey in the market remains relatively high financial benefits to the beekeeping farmers remain alarmingly low and many times hardly any. This large disconnect between the high price of honey and little financial benefit to the beekeeper illustrates underlying inefficiencies within the production chain.

On a broad assessment, those honey co-operatives that are borrowing funds to acquire capital to purchase honey from beekeepers may be making huge losses. This is after considering the cost of funds, the high buying price of from members, the handling, storage and processing costs involved before delivering honey to the distribution actors. The level of production is closely tied to the price and potential profits expected since low production will definitely increase the handling and processing costs per unit while an increase in production would considerably reduce the cost thus open avenues of reducing the prices even further to compete effectively in the markets. A conspicuous observation from the field was that beekeeping farmers charge highly for their honey to increase their profits. Increasing production at farm level can allow farmers to reduce the price per Kilogram of honey but make even more profits than they do when producing small and uneconomical honey quantities.

4.2 Best Practices at National Level:

4.2.1 Demonstrating viability of beekeeping as an enterprise:

This involves having meetings, workshops and other forums with financial institutions and other stakeholders to illustrate viability of beekeeping as an enterprise on which clients can apply for loans and repay from the particular activity without having to rely on other sources of income. Getting this buy-in of commercial banks and MFI is critical for them to consider extending credit

services to beekeeping farmers. Financial institutions are continually on the lookout for viable business enterprises to lend to and sharing the information we have on beekeeping with them could be the starting point to their acceptance of beekeeping as a stable business.

4.2.2 Assessing ways of mitigating risks in lending:

While financial institutions generally consider agri-based businesses as high risk there have been numerous efforts by the government through the introduction of guarantee financing for all bad loans that were disbursed for agriculture related activities. For example the Rural Sector Support Program (RSSP) is an open guarantee fund to any licensed financial institution that is disbursing loans to finance agri-business related activities. This fund undertakes to pay back to the financial institution 50% of the defaulted value as long as the stipulated terms and conditions to qualify for financing were met and it ascertain that the appraisal was done in line with the prudential lending standards. This is just one example of an existing facility that automatically reduces the risk of lending to beekeeping farmers by a reasonable 50%. It is this guarantee facility that has seen commercial banks and other financial institutions undertake to finance agriculture related enterprises since they are cautioned against the risks of loan default.

Numerous efforts are required by the government agencies especially RARDA to sensitize financial service providers (commercial banks and MFI) that beekeeping is also an agri-based business and that the guarantee facilities available can cover 50% of the default value for loans disbursed to beekeeping actors. Financial institutions need to be sensitized to buy into this system that would reduce the risks associated with agricultural lending.

Risks could be mitigated by utilizing the available guarantee fund schemes which remain largely underutilized. The two most visible and available guarantee funds that could be explored comprised:

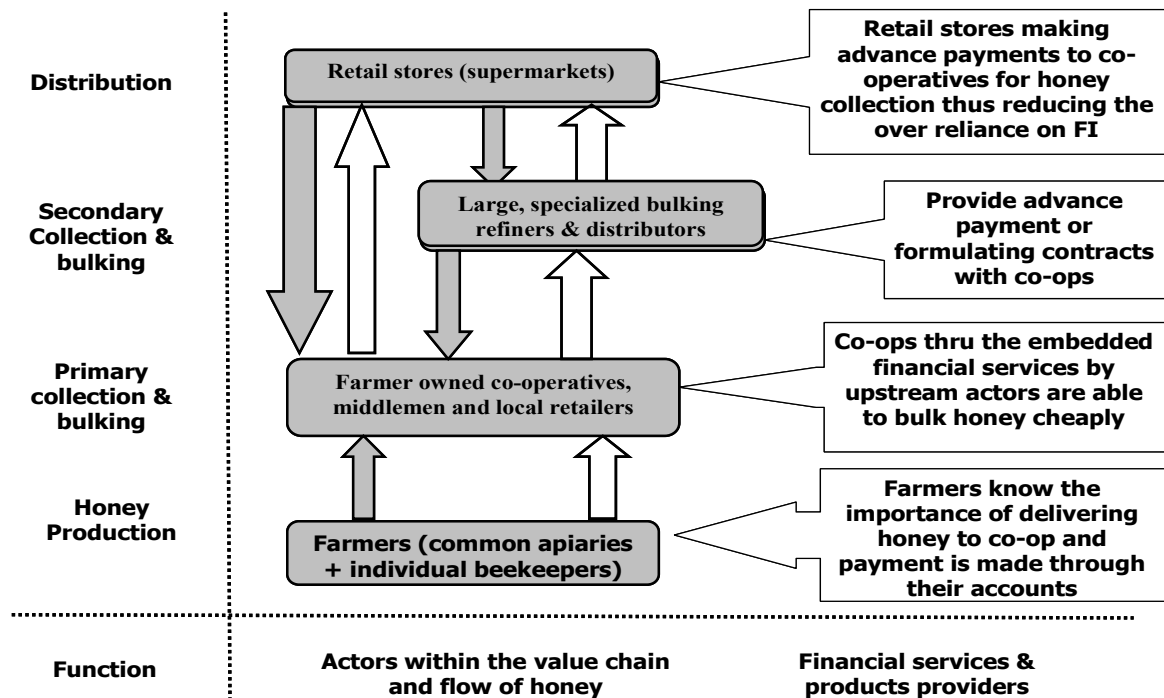
Fund:	Main features:
RSSP (MINAGRI through the National Bank of Rwanda (NBR))	<ul style="list-style-type: none"> - Offering to finance 30 – 50% of loan losses that were disbursed for agriculture related activities (beekeeping included) - It is available to all registered and authorized financial institutions (commercial banks and MFI).
Gender Entrepreneurship Market Program (GEMP) Fund is being managed by IFC	<ul style="list-style-type: none"> - IFC has established credit lines where women involved in profitable businesses enterprises can easily access financial services through commercial banks upon its guarantee. - The program has a capacity to provide a guarantee finance facility worth RWF 2 billion (US\$ 3,571,428) - Women in apiculture are eligible for this facility.

4.2.3 Triggering development of embedded services within the value chain:

The current beekeeping value chain is too dependent on a cash economy where to participate actors need money on a constant basis. This compels actors especially at the collection and bulking function into borrowing from financial institutions to enable them collect as much honey from beekeepers as possible also to satisfy market demands. This external borrowing greatly reduces the profits realized from bulking and in many cases leading to direct losses. Some of the embedded services that can be integrated into the value chain include advances from actors

upstream in the value chain, sensitizing beekeeping farmers to become members by opening accounts with the co-operative and accepting to be paid through the account. This later arrangement forms a hybrid credit arrangement where the co-operative acquires honey to pay for it at a later date.

Development of embedded serviced within a value chain requires a critical understanding of the relationships of actors as well as the impact of their actions on the product and the entire value chain. If beekeeping co-operatives continue making losses from bulking of honey due to the high costs of funds from commercial banks and MFI, they will be forced into bankruptcy and may eventually close down. This therefore calls for dialogue and understanding between the stakeholders where for example large retail stores would pay in advance for the product thus providing more or less a no-interest advance to the co-operative which would enable them collect and package honey cheaply thereby increasing their profits. This would see the emergence of a "hybrid value chain" where as opposed to the current where only honey is moving upwards in the value chain there would be illustrations of downward movement of advance payments from for example the large distributing agents as well as provision of credit by the members of a co-operative in terms of delivering honey to be paid at a later date.



↑ Indicates flow of credit services from giver to beneficiary

↑ Indicates flow of honey from producers to bulking agents to the distributors

Examples of embedded services include trader advance payments, trader credit, contract farming and warehouse receipting. The warehouse receipt system may not work for honey since the warehouse /term storage function is not essential to completing the value chain or in developing the product.

Trader Credit /contract farming:

Trader credit involves provision of short-term credit by produce buyers (where in this case the co-operative would act as the main trader/buyer and would provide hives on credit to members). The involvement of financial institutions is limited in this system especially because credit is provided in kind. For honey, this arrangement is highly vulnerable to on-the-side selling since repayment is tied to the percentage of honey. If explored repayment should be periodical, monetary and criteria to qualify should be based on savings of participating member in the co-operative. Contract production has worked in Kenya where farmers are issued with hives on credit on the terms that all honey will be sold to the issuing organization. The success of this model heavily depends on clarity of the terms and conditions of engagement, streamlined governance and transparency issues and ability to enforce the contracts. This would be part of establishing sustainable partnerships and linkages.

4.3.3 Fostering collective planning among development partners

Currently there are too many actors implementing development oriented programs within the beekeeping sub-sector in Rwanda. The study appreciates that the more partners available the better for the sub-sector especially because they all have one goal – to boost performance of beekeeping. However, efforts of the various development partners are not well co-ordinated and thus remain highly un-harmonized. They remain as such in their philosophy, design and implementation strategies while the broad objectives and desired results are the same from institution to institution. These interventions are targeted to the same communities hence raising concerns about possibilities of efforts and resource duplication, conflicts of interests, fatigue among the communities and waste of resources.

There is an urgent need for development partners to sit-together and plan for their interventions to maximize effectiveness, efficiency and impact. This can be easily achieved through building on synergies, ensuring that efforts are aimed at and based on collaboration and complementing each other rather than competing. This can be established through the set-up of effective mechanisms and platforms for exchange of experiences and ideas and essentially critical learning from others so that the same mistakes are not repeated in different projects by different development partners.

4.3.4 Develop and strengthen effective clusters:

The value chain approach helps to identify all or most of the actors within, position them based on their functions and also helps identify the strengths and weaknesses of the actors. Interventions based on clusters have proved to be more effective as they encourage actors to identify specific nodes (or node depending on the value chain) and specialize at that. This gives support actors an opportunity to effectively assess their needs and develop appropriate interventions and activities that help the entire cluster of to develop thus ensuring that there are no weak links within the chain.

5. PROPOSED SEQUENCE OF ACTIVITIES IN ORDER OF PRIORITY:

Term:	Activity:	Desired Results:
Short-term:	<ul style="list-style-type: none"> - Sharing findings of study with partners and stakeholders in the beekeeping sub-sector; 	<ul style="list-style-type: none"> - Receiving stakeholders views and comments on the findings of study and if acceptable how the recommendations can be implemented.
	<ul style="list-style-type: none"> - Encourage actors within the value chain to identify specific nodes and specialize at that to develop programs of activities towards building strong clusters across the value chain; 	<ul style="list-style-type: none"> - With specialization, needs assessment becomes easier especially where functions and weaknesses are identified.
	<ul style="list-style-type: none"> - Initiate efforts to reduce the subsidy /grants mentality 	<ul style="list-style-type: none"> - Producers and other actors within the value chain take up an active role in developing themselves rather than waiting to be developed.
(Medium to long-term)	<ul style="list-style-type: none"> - Encourage collective planning, thinking and experience sharing among development partners to identify thematic guidelines for designing and implementing programs in the sub-sector; 	<ul style="list-style-type: none"> - Development partners reading from the same page and designing programs of work based on accepted criteria and thematic guidelines.
(Medium to long-term)	<ul style="list-style-type: none"> - Develop medium to long-term programs of work (3 – 5 years) that seek to address the challenges highlighted herein; - Based on the value chain framework develop interventions and activities for each hierarchy of the value chain. 	<ul style="list-style-type: none"> - Value chain specific programs of work are formulated with specific activities targeting all hierarchies of the value chain.

Term:	Activity:	Desired Results:
(Medium to long-term)	<ul style="list-style-type: none"> - Working with financial institutions (commercial banks and MFI) to explore ways of mitigating risks in beekeeping lending and to get their buy inn into beekeeping as a commercially viable enterprise; 	<ul style="list-style-type: none"> - Financial institutions appreciate beekeeping as a commercially viable and profitable business enterprise; - Risk mitigation strategies and opportunities are identified and explored towards providing market based credit facilities to beekeeping value chain actors especially at the production function where they are deficient.
(Medium to long-term)	<ul style="list-style-type: none"> - Build the capacities of every actor to position themselves adequately to enhance effectiveness and efficiency within their areas of influence; 	<ul style="list-style-type: none"> - Producers appreciate beekeeping as a business enterprise (they keep records, maintain bank accounts and have their capacities build on business set-up and management); - Co-ops are strengthened to offer more services to members and their operations are streamlined; - Synergetic linkages are built within actors to facilitate better relations, trust building and increased efficiency; - Programs focus also on qualitative indicators of change not too much dependence on the quantitative

6. ANNEXES:

6.1 List of Participants to the Validation Workshop:

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6.2 Validation Workshop Speech:

Distinguish guests, Ladies and Gentlemen,

On behalf of the SNVs Country Director Mr. Jean de Matha Ouedraogo, It is pleasure for me to welcome all of you to this half day workshop on beekeeping value chain finance. Sharing information and knowledge is one of our major objectives; and through a workshop like this one, we hope stakeholders upgrade the quality of our interventions, complement and find new ways to eradicate poverty.

The aim of our workshop today is to offer opportunity to validate a value chain finance study carried out by SNV. SNV Rwanda has been a stakeholder in the beekeeping sub-sector since 2004. Its positioning in this sector has been motivated by the objectives set under the national development policies, particularly through the Vision 2020, the strategic framework for poverty alleviation (EDPRS) and the Millennium Development Goals (MDGs).

SNVs' approach emphasizes on creating synergies among actors to achieve impact results in terms of increased production, income and employment, which is likely to contribute to the achievement of the millennium development goals.

SNV Rwanda also stresses the importance of sustainability in interventions of which one of the conditions is the ownership of the process of capacity development by the beneficiaries. To strengthen its' engagements in value chain development for clients and partners, SNV provides a mix of advisory capacity development products and services.

The progress made in recent years in the beekeeping sector should not mask the difficulties of a fledgling industry especially with regard to management aspects. Moreover as the sector is oriented towards the local and international market, it must respond to specific standards. Another challenge concerns the financing of beekeepers' cooperatives and the private sector, in terms of investment or financing their working capital requirements. This specific problem must be addressed in a short term in order to boost the beekeeping sector and contribute to poverty alleviation especially in the rural areas of Rwanda.

Thus, SNV Rwanda carried out a beekeeping Value chain finance study, which seeks ways and means of enhancing performance of the sector in Rwanda. We believe that as part of the active beekeeping in Rwanda stakeholders, your contribution will be highly valuable and helpful. In closing I hope that the workshop today will be a valuable means to share ideas on beekeeping value chain finance. Innovative ideas and better understanding of what required in the new global economy will serve beekeepers and their cooperatives to become more business oriented.

Thank you;

**Mr. Francois Sihimbiro
CDAI/Coffee Advisor
SNV Rwanda**