Development of Inclusive Markets in Agriculture and Trade (DIMAT)

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Value Chain Analysis (VCA) of the Honey Sub-sector in Uganda

The local market is subdivided into a price driven market that is dominated by informal traders. These normally sell honey in re-used plastic containers and this honey is of inferior quality.

The Nature and Markets of Honey Value Chains in Uganda

Development of Inclusive Market in Agriculture and Trade (DIMAT) Project

November, 2012

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About DIMAT

Development of Inclusive Markets in Agriculture and Trade (DIMAT) in Uganda is a project supported by the United Nations Development Program (UNDP) and the Government of Uganda (GoU). Enterprise Uganda (EUg) is the implementing partner while Kilimo Trust (KT) and Private Sector Development Companies (PSDCs) are the Responsible Parties (RPs) for the project. The aim of the project is to contribute to Programme 2 of Uganda's Agriculture Development Strategy Investment Plan (DSIP) – in relation to enhancing "Market Access and Value Addition". DIMAT Project is focused on building strong business linkages and inclusive business approaches to link small and medium scale producer enterprises to profitable markets at national, regional and global levels.

About this Report

This report presents the findings from the value chain analysis process implemented in July 2012. The analysis is base on both secondary literature and primary data gathered from various honey producing and trading districts of Uganda. The report looks at the status of the honey sub-sector and the nature of the value chain interms of linking producers to consumer markets . These include evidence based characterisation of i) demand and supply, ii) main actors along the value chains and iii) the value addition processes, value chain services, relationships among actors and key investors supporting the development of the sub-sector. It also highlights the constraints faced by the actors, and the opportunities available within the value chain. It then presents conclusions and recommendations of interventions for the project, regarding entry points to the Honey Value Chain.

Acknowledgement

Availability of data and information related to agriculture is a huge challenge in Uganda - and as a result the authors thank all the organizations, private companies and individuals who provided data and information to support the findings reported in this document.

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Citation

Kilimo Trust, 2012. Development of Inclusive Markets in Agriculture and Trade (DIMAT): The Nature and Markets of Honey Value Chains in Uganda.

EXECUTIVE SUMMARY

Honey production in Uganda, which is largely organic, is still very low compared to domestic demand with more consumers substituting sugar for honey in their diets due to perceived medicinal value. As a result, supply response in Uganda is not meeting the rapidly expanding domestic and regional demand. Honey is largely traded informally across borders in the EAC.

Findings - Baseline

The main honey producing areas in Uganda are: the West Nile region in Northern Uganda and the Western Uganda (Kabarole, Kisoro, Mbarara, Ntungamo, Kabale, Bushenyi and Rukungiri districts). Northern Uganda, which produces the highest volumes, records about 640 MT per annum while the central region records the least volume of about 85 MT. Yumbe, Nakapiripirit, Pader, Moroto, Amuru, Oyam, Nyadri, Nebbi, Apac and Lira districts are the leading producers of honey in Uganda.

There is a lot of informal cross border trade between Uganda and its neighbouring countries (Rwanda, DRC, Kenya, and South Sudan). This market is growing fast and has less stringent requirements compared to Europe. The wholesalers, most of whom are also transporters, play a vital role in cross border trade.

The majority of beekeepers in Uganda are small scale producers mainly using traditional hives and indigenous management practices to maintain their bee colonies. It is estimated that there are about 2 million hives in Uganda 87% of which are traditional log hive with about 66% of them getting colonized per season.

Although the traditional bee hives had the least reported and potential productivity, they were the most commonly used and owned types of hives by the majority of the bee keepers. This was attributed to their lower cost, availability of construction materials locally and ease of construction.

On the other hand, Langstroth hives, which have the highest potential yield, were reported to have the highest yield gap (77%). The KTB hives were reported to have the lowest yield gap (54%). This probably is a result of intensive training of farmers by extension workers in adoption and use of the KTB. Major players in the sector like SNV have built the capacity of many farmers to use the higher yielding KTB hives. In terms of affordability, Langstroth hives, though with the highest potential yield, are the most costly, followed by KTB, and then the traditional hives.

Productivity of bee hives is also dependent on the size and siting of the hives as well as type of vegetation around the hives' site. These all influence the size of the bee colony hence the honey yield obtainable from the hives. In addition to determining honey production, vegetation affects flavour, colour and viscosity of honey.

Currently, the Ugandan domestic market is under-supplied and although local processors have made good strides in bringing honey to the shelves, significant amount of honey consumed in the domestic market is still imported, mainly targeting the rapidly growing number of supermarkets and grocery shops in major towns such as Kampala, Jinja, Entebbe, Mbarara, Lira, Gulu, Arua and Mbale which consume 95% of the honey produced locally. Local brands dominate the market and compete more favourably mainly on prices against the imported brands from Kenya, United Arab Emirates, Germany, UK, Dubai and Switzerland.

According to PMA (2005), the demand for honey in Uganda is up to 3,600 MT. However, with estimated annual production of 1,538 MT, there is a deficit of 2,062 MT/pa.

Importers dominate supply of honey. Some of these importers are travelling traders who deal in combed honey and sell it to processors as is common in West Nile region where honey is imported from DRC.

Bee products are mainly traded in form of pure honey, combed honey, boiled honey, propolis, bees wax and honey wine. Royal jelly, pollen and venom are bee products that have not yet been explored.

The honey market is segmented into local, regional and global markets. The local market is further subdivided into a price driven market that is dominated by informal traders. These normally sell their honey in re-used plastic containers and this honey is of inferior quality. The study found out that there is a lot of trade taking place at the farm-gate with some farmers selling directly to final consumers within local communities. This presents an opportunity for upgrading the farmers to processors of better quality honey.

Findings – Value Chain Maps

The main actors in the honey value chain are: input suppliers, bee keepers, bulkers, processors, transporters (who also double as traders), processors, exporters, wholesalers, retailers and consumers.

The honey value chain is still relatively unstructured, with the majority of players being micro and small players at production and trade levels. However, the value chain is relatively integrated, with a number of producers engaged as own processors, supplying to retailers and the final consumers. Honey sold in this channel is however of inferior quality.

Honey producers are still producing below potential mostly using rudimentary, traditional methods. Similarly, processors are processing below capacity due to inadequate volumes supplied by the farmers.

The role of the middle-men is relatively weak because most producers either process the honey or deliver directly to the bigger processors.

The biggest shortfalls in the honey value chain are poor quality of honey and insufficient volumes supplied due to inefficient production and processing methods.

Honey inputs sub-sector is under-developed with the existence of only two companies supplying packaging jars and this creates insufficient supply of the same. This is an opportunity for new investment.

There are three main types of bee hives supplied in the market; traditional; KTB and langstroth. There is limited provision of after-sales services and extension by the input suppliers.

Honey is used in the households as a preferred sweetener in beverages, second only to sugar especially for diabetics. It is also consumed in its raw form as honey combs or as a spread on toast. It is also used for brewing liquor and wine.

Regarding temporary employment at the trading stage of honey, this is dominated by women. On average, 4 women as opposed to 3 men are employed as casual labourers at this stage and earn an average wage of UGX 150,000/month. Women dominate activities at the marketing and processing levels.

Raw honey flows through three different channels to reach the final consumers (individuals, institutions and hotels). The channels are:

a. Beekeepers who sell combed and semi-processed honey to processors.

b. Producers who sell raw honey to the retailers. Producers pack the raw honey in airtight buckets and distribute to retailers for selling to consumers who prefer the raw honey.

c. Producers who sell their own honey constitute the third channel and include sharing with relatives and neighbours. In this channel, about 10% of the raw honey is retained by producers for home consumption and for medicinal use.

d. Producers who process and sell directly to consumers.

Value capture - Wholesalers and retailers buy combed and liquid honey at the same prices although they each capture different gross margins from their respective markets. Analysis of the gross margins along the honey value chain indicated that all factors held constant, trade in liquid honey is most profitable at the wholesaling stage, and least profitable at the processing stage.

The markets for other bee-products are still under-developed and this provides potential for expanding end-markets for the honey sub-sector. Most of these products which include: propolis, venom, wax are underexploited, in spite of available end-markets and proven technologies to utilize them.

The weakest links in the honey sub-sector are those between producer organizations and individual producers, producer organizations and processors, middlemen and processors/producers and processors and exporters. Due to low yields, most producers and/or processors fail to meet the demand for honey. Weak linkages between the processors and the export market are as a result of processors failing to meet standards and the quality set by the international market. Because most producers and processors are able to single-handedly perform most functions along the value chain, their linkages with the middlemen is weak.

Strong linkages along the chain are noted between local artisans and producers, producers and retailers and processors and retailers. The linkages between local artisans and producers are strong because of the ability of the artisans to locally duplicate modern hives (KTB and Lang stroth) and make them available at an affordable price.

With respect to services, there are existing linkages with all service providers across the value chain. Notably,

there are weak linkages with extension services and research and development. However, in spite of existing linkages with providers of financial services, technology, and BDS, the suitability of services, ability to pay and ease of access constrain the honey value chain actors.

The key challenges along the honey value chain include limited business and apiary management skills of producers, inability to deal with risks brought about by weather variability, theft of hives, low adoption rates of technology, unreliable and generally low volume of honey supplied, poor quality honey supplied, inadequate technologies and packaging materials and inadequate access to appropriate financial products.

The honey sub-sector in Uganda is supported by many organizations and programmes but is still faced by a myriad of challenges. There are limited mechanisms for coordination and information sharing among organizations and partners supporting the value chain. The sub-sector still operates under a draft apiculture policy while quality standards are not adhered to.

Conclusions

Potential for Establishing Formal Business Linkages

The biggest challenges facing the honey value chain are: high rates of side selling, limited supplies and high transaction costs and time associated with operating contracts. For those not engaged in formal contracts, poor quality honey is the main factor deterring traders from engaging in contractual arrangements.

Half of the respondents were willing to enter into contractual arrangements with their suppliers, on the following terms:

a. The suppliers of honey have to sell to the processors as agreed.

b. Prices should be negotiable (especially downwards if the market prices have fallen significantly than the contract prices).

c. Timely payment as scheduled in the contract but preferably, upon delivery.

d. The suppliers must be equipped with sound business skills to ensure they consistently meet the requirements of their contractors and are in turn not exploited.

e. Suppliers must be committed to supplying good quality honey.

f. In order to meet the volumes required, some processors recommended that suppliers be organized in groups to make aggregation of honey easier and more cost effective for the group and the processor.

Policies and Institutional Issues

The National Apiculture Policy provides the framework for development of the honey sub-sector in Uganda with an aim of promoting and supporting the production of honey and other bee products sustainably. It further stipulates the implementation of standards and regulations and the mechanism to effectively achieve this goal. The Uganda National Apiculture Development Association was established to mention the implementation of this.

Export markets, particularly the European Union (EU), United States of America (USA), Japan, Canada, South Africa, have their own quality standards for the honey and bee products, which become relevant to Uganda whenever there are exports targeting these countries. Currently, the most applicable and stringent standards are the EU's National Residue Monitoring Plan (NRMP). After meeting these standards, Uganda is now exporting honey and bee products to the EU, USA, Japan and South Africa.

The Uganda Apiculture Export Strategy primarily focuses on developing and marketing bee products especially in the EU and the USA. The major goals of the strategy include: advocate for and put in place a sector development enabling environment and policy, strengthening the private sector institutional framework involved with the development of the apiary industry, increasing the technical capacity of the sector to meet market place requirements, attracting the necessary investment in the sector, modernizing the production and processing systems along the entire value chain, promoting the products in the regional and international markets mainly by branding Uganda as a source of natural and organic specialty honey.

Several government institutions offer support to the apiculture subsector: the UEPB is involved in marketing of honey in international markets, exports development including market research, trade promotion and export documentation. On the other hand, NAADS provides extension services to farmers and inputs such as improved hives, especially the Kenya Top Bar hives. UNBS operates a product quality certification scheme in addition to enforcement of the honey standards while NALIRI spearheads apiculture research.

SWOT Analysis

a. Strengths of the Honey Value Chain

i. The sector is prioritized by government and is already supported through its National Apiculture Policy and the National Apiculture Export Strategy.

ii. There is a considerable level of value chain integration, with a good number of producers integrated into processing. This presents opportunity to upgrade the chain.

iii. The chain actors are willing to strengthen their existing linkages and engage in new formal agreements to boost supply both in quality and quantity.

iv. Availability of tested and relatively affordable improved bee hives and practices.

v. Availability of a significant number of large off-takers/players in the sub-sector that can facilitate efficient access to markets (domestic and export).

b. Weaknesses of the Honey Value Chain

i. Unstructured trade charactered by weak enforcement of standard rules and quality assurance systems, and mistrust (side selling and reluctance to pay loans).

ii. Low quality of vertical integration.

iii. Diseconomies of scale. Most beekeepers in addition to operating at small scale, market their honey individually which makes the cost of doing business high.

iv. Weak value chain institutions; whose numbers are also too low to influence the chain significantly.

v. Low productivity and quality.

vi. Poor packaging due to inadequate availability of good and affordable packaging material.

vii. Low business, entrepreneurial and apiary management skills of actors.

viii. There is minimal investment in medium to large scale beekeeping with most of the efforts geared towards small scale beekeeping who lack the necessary business skills.

ix. There is a general lack of standard/uniform unit of measurement for honey. This has made it difficult for market information providers to disseminate prices via means such as SMS.

xi. Limited number of entomologists and other extenion workers in the country.

c. Opportunities

i. Expanding national, regional, and international markets for honey and its by-products.

ii. Availability of potential investors (FDI, Equity investors) international/regional/development banks and commercial banks).

iii. Availability of land.

iv. Existence of a National Apiculture Policy.

v. Existence of development organisations such as UNDP, SNV, World Vision and others willing to support the sector.

vi. Willingness of financial institutions to negotiate on lending terms.

vii. Critical mass of local artisans making improved hives and protective gears.

d. Threats

i. Inadequate infrastructure especially to effectively connect different VC actors located in different geographic areas.

ii. Reduced availability of trees due to continued deforestation, especially in the Northern areas where land clearing for cultivation is increasing.

iii. Cheap honey imports are making the locally produced honey uncompetitive.

iv. Existence of adulterated and counterfeit honey in the domestic market.

v. Slow implementation of apiculture policies and strategies.

RECOMMENDATIONS

Proposed Short Term Interventions

i) The first intervention should concentrate on strengthening the existing linkages between producers, processors and traders as well building new sustainable links, with the aim of boosting quantities supplied as well as adherence to quality standards.

ii) Building the capacity of producers to efficiently manage their business. This should be carried out through

- training in business skills
- linking actors to appropriate providers of finance
- strengthening/ formation of groups for ease of access to assets and exterior services.

Building the capacity of the producers trough group formation will make them credit worth for they guarantee each other and this will pave way to the second intervention: facilitating the access to investible finance by the producers. Limited access to finance makes it difficult for producers to utilize modern, efficient technologies in honey production, processing and packaging. The assumption is, once the capacity of the producers is built and they can access finance, then a change reaction will take place. Driven by the demand for quality honey, they will access modern technologies to not only increase productivity but also process honey to the expected standards.

Proposed Short - Medium Term Intervention

Market symmetry and competition can only be created by ensuring accurate information when needed. The existing market information systems have not yet integrated honey into their group of target clients. The main cause is that currently, trade in honey is largely informal hence difficult for the beneficiaries of such information to be responsible for the costs involved. Integrating the honey value chain to existing market information systems will be important. The approach will entail producer groups getting linked to different MIS platforms through subscription after which they can benefit from the MI programs.

The second phase of this intervention will be to built the capacity of the MIS providers in a participative way on what the target audience of their information with respect to honey demand. This has to be done sustainably through ensuring that the actors in the honey value chain receive the information they demand and hence pay for the services.

Proposed Medium Term Intervention

There will be need for strengthening advocacy through a multi actor platform such as TUNADO. The approach will borrow from other stronger platforms like the one for coffee sub-sector. The representatives would effectively air the concerns of the actors to the relevant authorities and the issues of priority will include: improvement in the legalization processes of business, less charges on SMEs linkage to international markets by the ministry of trade, standardization of units of measurement, collection of dissemination of more accurate trade, production and market related information, etc.

Proposed Long Term Intervention

Generally, there is a need to change the perception of producers to see bee keeping as a source of income and employment. For this enterprise to thrive, conservation of environmental resources has to be given priority including reforestation, conserving water resources and minimizing pollution. This will call for a strategy to collaborate with National Environment Management Authority, National Forestry Authority among other government departments as well as development agencies e.g. United Nations Environmental Program (UNEP) and UNDP through a public private partnership/arrangement.

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LIST OF ACRONYMS & ABBREVIATIONS

ACP	Africa Caribbean Pacific
AgGDP	Agricultural Gross Domestic Product
AGRA	Alliance for a Green Revolution in Africa
AMFIU	Association of Micro Finance Institutions
APEF	Agricultural Productivity Enhancement Forum
ATAAS	Agriculture Technology and Agribusiness Advisory Services
AusAID	Australian Aid
BCtA	Business call to action
BDS	Business development service
BMO	Business Membership Organizations
BNU	Bee Natural Uganda
CARD	Coalition of Africa Honey Development
CDM	Cold Dripping Method
COMESA	Common Market for Eastern and Southern Africa
CSO	Civil Society Organization
DANIDA	Danish International Development Agency
DIMAT	Development of Inclusive Markets for Agriculture and Trade
DRC	Democratic Republic of Congo
DSIP	Development Strategy Investment Plan
EAC	East African Community
EACM	East African Common Market
EU	European Union
EWI	East West Innovations Uganda Ltd
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Statistical Databases
FDI	Foreign direct investment
FG	Farmers Group
FY	Financial Year
GDP	Gross Domestic Product
GoU	Government of Uganda
IDO	International Development Organization
IFAD	International Fund for Agricultural Development
IFFPRI	International Food Policy Research Institute
IRDI	Integrated Rural Development Initiative
ITC	International Trade Centre
JICA	Japan International Cooperation Agency
KABECOS	Kamwenge Beekeepers Credit & Savings Cooperative
KBA	Kabarole Beekeepers Association Ltd
KACODA	Kapchorwa Community Development Association
KAMUMBA	Kabale Municipality Modern Beekeepers Association
KITWOBEE	Kitgum Women Beekeepers Association
KT	Kilimo Trust
LEAD	Livelihoods and Enterprises for Agricultural Development
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDI	Microfinance Deposit-taking Institution
MEPE	Mini-estates and Processing Enterprises
MSME	Micro, Small and Medium Enterprise (MSME)
MT	Metric Tons
NAADS	National Agricultural Advisory Services Programme
NALIRI	National Livestock Resources Research Institute
NAP	National Agricultural Policy
NARO	National Agricultural Research Organization
NGO	Non-Governmental Organization
NRMP	National Residue Monitoring Plan
NUSAF	Northern Uganda Social Action Fund
PMA	Plan for the Modernization of Agriculture
R&D	Research and development
SACCO	Savings and Credit Cooperative Society
SADC	Southern African Development Community
SME	Small and Medium Enterprises
SMS	Short message service
SOCADIDO	Soroti Catholic Diocese Integrated Development Organization
SODIFA	Soroti District Farmers Association
SSA	Sub-Saharan Africa
SWOT	Strengths, weakness, opportunities, and threats
TIPS	Trade & Industrial Policy Strategies
TUNADO	The Uganda National Apiculture Development Organisation
UBOS	Uganda National Bureau of Statistics
UEPB	Uganda Export Promotion Board
UGX	Uganda Shillings
UIA	Uganda Investment Authority
UNBS	Uganda National Bureau of Standards
UNEP	United Nations Envrionmental Programme
UBIN	Uganda Business Information Network
UCA	Uganda Cooperative Alliance
UNCCI	Uganda National Chamber of Commerce and Industry
UNDP	United Nations Development Programme
UNFFE	Uganda National Farmers Federation
UNIDO	United Nations Industrial Development Organisation

USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VCA	Value Chain Analysis
VSLA	Village Savings and Loan Association
WFP	World Food Programme
WRS	Warehouse Receipt System

1.0 INTRODUCTION

In Uganda, bee keeping contributes to sustainable food and income security for smallholders in addition to contributing to contributing to agricutlure in general through pollinating of most crops, trees and shrubs. Crop production in Uganda is compatible with apiculture and honey can be produced with symbiotic crops such as coffee, cotton, onions and pumpkins among others.

1.1 Background

DIMAT is a project supported by the United Nations Development Program (UNDP) and the Government of Uganda (GoU). It is implemented by a consortium made up of Enterprise Uganda (EUg), Kilimo Trust (KT) and the Private Sector Development Centres (PSDCs) in the various target districts of Uganda. The aim of the DIMAT Project is to contribute to Programme 2 of the Uganda's Agriculture Development Strategy Investment Plan (DSIP) – in relation to enhancing "Market Access and Value Addition". DIMAT Project intends to focus on building strong business linkages and inclusive business approaches to link small and medium scale honey producers and enterprises to profitable markets at national, regional and global levels.

Honey has been selected as a priority commodity under the DIMAT project for three reasons. First, honey productivity is still low compared to domestic demand as more consumers are migrating to using honey in their diets due to perceived medicinal value and as a sweetener. As a result, supply response in Uganda and other EAC Partner States, is not meeting the rapidly expanding regional demand. This supply gap therefore presnets an opportunity to boost production and increase incomes. Secondly, honey is largely traded across borders in the EAC. Thirdly, most Ugandan honey is organically produced and largely meets EU export requirements, making it easier to penetrate european markets.

The DIMAT project will succeed in delivering its objective to "enhance market access and value addition"in the honey sub-sector if it focuses on enhancing its local tradability of honey and honey products within the framework of the EACM. This is because increased regional agricultural trade in honey will assist Uganda to realize its untapped production potential. This will ensure availability of honey at affordable prices for the low-income consumers, while increasing profitability and income security for honey producers and other SMEs along the honey value chain.

1.2 Objectives of the Study

The main objective of this study was to analyze the honey value chain in order to identify key areas for strategic intervention by DIMAT. Specific objectives were as follows:

a) Compile and assess baseline information with respect to the honey sub-sector.

b) Undertake a value chain analysis with the aim of mapping the main characteristics of the value chain.

c) Identify and examine constraints and opportunities within the value chain.

d) Identify the underlying policies, institutional and infrastructural issues that affect competitiveness.

e) Identify the potential for upgrading the value chains.

2.0 METHODOLOGY

2.1 Value Chain and SWOT Analytical Methods

This study employed the value chain and SWOT analytical methods to achieve its objectives. The value chain approach is an accounting framework which uses both the functional and economic analysis (at market prices) of an identified value chain (FAO, 2005). The functional analysis was used to define the actors in the honey value chains while the financial analysis was used to analyze the economic returns of the different actors in the value chain(s).

In the functional analysis, different actors in the chain and the roles they play in the chain were identified. The functional analysis involved: a) identification of physical flows, b) identification of technical functions of the chain, c) identification of agents and c) quantification of physical flows. After the players in the value chain were mapped and their technical functions defined, the amount of honey they were trading in was quantified (mapping of volumes and channels).

The financial analysis of the honey value chain was a data intensive approach which involved identification of the inputs used in a particular activity in the value chain as well as the resulting output(s) and attaching monitory value to them. The aim of financial analysis was to determine whether: a) every agent was generating a surplus, b) the surplus was adequate to ensure sustainability of the agents' activities, c) the surplus was a sufficient, acceptable return on investment, d) the value chain was profitable, e) the prices between agents correctly reflect production costs, f) attempt to identify any inneficiencies in the chain.

The internal and external situation analysis can produce a large amount of information, much of which may not be highly relevant. The SWOT analysis therefore served as an interpretative filter to reduce the information to a manageable quantity of key issues. The SWOT analysis classified the internal aspects as strengths or weaknesses and the external situational factors as opportunities or threats. Strengths served as a foundation for building a competitive advantage by value chain actors, whilst weaknesses are the constraints internal to the chain. By understanding these four aspects of the honey value chain, actors can better leverage their strengths, correct their weaknesses, capitalize on opportunities and mitigate potential threats.

2.2 Data needs and sources

Both primary and secondary data were used in this study. The main sources of secondary data included: Civil Society Organizations (CSOs), TUNADO, MSP, UEPB, UNEP, Food Security Research Projects, Food and Agriculture Organization (FAO), COMESA, International Trade Centre reports, Uganda Bureau of Statistics, MAAIF, Business Membership Organizations (BMOs), development agencies and previous Value Chain Analysis (VCA) studies.

More specifically, the following information on honey in Uganda was assembled from the above secondary sources:

a) Global, regional, and national structure of demand for raw materials and finished products.

b) Production and trade volumes and trends in the past 10 years.

c) Inputs and products' prices and trends in the past 5 years.

d) Key drivers of demand of products globally, regionally and nationally and how these affect market shares of key industry players.

e) Data on relationship between commodity sector contributions and broader macroeconomic indicators (GDP, inflation, employment, foreign earnings, tax revenues, and so on).

f) Potential public and private sector players (including market leaders) that may influence the flow of trade.

g) Underlying policies, institutional, and infrastructural issues that affect the competitiveness of the honey value chain.

h) Current and planned investments and priorities of governments and development agencies in the sectors.

With respect to primary data, the following data specific to honey was collected:

a) Costs, production, sales volumes, values and margins.

b) Types of facilities and services offered/ that are available, for the sector as well as the terms and conditions for accessing these. These were collected from finance institutions and market off-takers / buyers/processors.

c) Data on support services to the honey value chain, trade volumes, storage facilities, costs and margins, constraints and opportunities was also collected. This data were especially collected from traders and associations. Some of these traders were lead firms/market off-takers and their data further included demanded volumes from suppliers, volume projections, pricing mechanisms, willingness to enter into contractual arrangements with other actors along the value chain and conditions for these contractual agreements.

d) Other value chain institutions like market information providers, input suppliers, technology providers also provided data on nature of services they provide, their target recipients, the constraints they face in providing these services and any unexplored opportunities.

2.3 Sampling and Data Collection

This study was conducted in selected districts as shown in (Table 1.1). Purposive sampling was used to select these districts, guided by the following criteria:

a) Districts where the production of honey is significant by volume; and/or

b) Districts where there is significant trade of honey and/or honey products;

c) Areas where the consumption of honey by volume is significantly high to present an attractive market.

Table 1.1: List of Districts Selected for Honey VCA

	Selected districts	Reason for Selection for Honey VCA
1.	Ntungamo	Significant trading activities
2.	Arua	Significant production
3.	Bushenyi	Significant production
4.	Busia	Significant trading activities
5.	Gulu	Significant trading activities
6.	Jinja	Significant trading activities
7.	Kampala	Significant trading activities
8.	Lira	Significant trading activities
9.	Masaka	Significant trading activities
10.	Mbarara	Significant trading activities
11.	Nebbi	Significant production
12.	Soroti	Significant production
13.	Mbale	Significant trading activities
14.	Sironko	Significant production

Sample size of individual respondents for the primary data collection: the sample size was determined using precision criterion determination of the sample size which assumes that the dominant characteristics of the study would occur if the confidence interval is set at 95%.

A total of 65 respondents were selected for the survey conducted for honey and distributed per district and category of actors as shown in Table 1.2 below:

Table 1.2: Number of Respondents for Primary Data Collection on Honey

a) By category of value chain actors

Category of Value Chain Actor	Specific to Honey
Farmer Groups	29
Traders	11
Retailers	10
Processors	15
Total	65

b) By district

SN	Districts	Farmer Groups	Processors	Traders	Retailers	Total
1	Arua	5	2	3	1	11
2	Bushenyi	5	2		2	9
3	Busia		1			1
4	Gulu				1	1
5	Kampala		2			2
6	Lira	5	2	2	4	13
7	Masaka			2		2
8	Nebbi	5	2	2	2	11
9	Sironko	3	1	2		6
10	Soroti	6	3			9
	Total	29	15	11	10	65

2.4 Data analysis

The data for the different value chain actors were entered in spread sheets and cleaned for any outliers and entry errors. The first step of the analysis involved descriptive statistics which were conducted to aid in characterising honey production, consumption and marketing in Uganda.

The second step involved functional and financial analysis of the honey value chain. The functional

analysis of the value chain involved mapping of the value chain, identification of the roles of the different actors at different stages and quantification of volumes of honey along the value chain. The flow of volumes along the chain was important categorizing the actors e.g. a chain could have small and large scale farmers producing the same commodity but have different production approaches.

The third step was to undertake a financial analysis of the value chain which involved attaching prices to the various quantities of outputs and inputs along the value chain. The aim of this analysis was to determine the financial returns to the different agents of the value chain and also determine the value added at each stage of the chain.

Finally, a SWOT analysis of the honey value chain was conducted. Factors that influence the internal workings of the chain were categorised into strengths and weaknesses, while those influencing the chain from outside were categorised as opportunities and threats. The aim was to determine the factors that make the chain competitive so as to capitalize on them but also identify those that may weaken or threaten the chain so that their effects could be mitigated.

2.5 Validation workshop

Preliminary findings of this study were presented to the key stakeholders with the aim of validating the facts presented, as well as the recommendations/ interventions proposed herein. Integration of their inputs led to a better refined report of the study.

2.6 Limitations

The study was faced by several limitations of coverage and depth, because:

a) Traders were not categorized into low, medium and large scale traders. Inadequate definition of these categories resulted to wide ranges.

b) The coverage of geographies, categories of value chain actors was limited because the available time was not adequate for comprehensive field work.

c) Most of the actors were not willing to disclose information related to costs of operations and revenues which would help determine more accurate gross margins.

3.0 RESULTS AND DISCUSSIONS

3.1 Honey production and Productivity in Uganda

3.1.1 Production

Beekeeping is one of the enterprises suitable in all the nine agro-ecological zones of Uganda (TUNADO, 2012). Moreover, the uniqueness of Uganda's natural flora and fauna contribute to production of honey with superior characteristics, such as flavour, taste, texture and colour. Currently, the major honey production areas in Uganda are shown in Figure 3.1.

Figure 3.1: Honey producing areas in Uganda (MSP report, 2011)

According to MSP (2012), the main honey producing areas in Uganda are Northern Uganda (especially the West Nile region) and the Western region (Kabarole, Kisoro, Mbarara, Ntungamo, Kabale, Bushenyi and Rukungiri districts). Northern Uganda, which produces the highest volumes, records about 640 MT per annum with the Central region recording the minimum volume of about 85 MT per annum. In terms of districts, Yumbe, Nakapiripirit, Pader, Moroto, Amuru, Oyam, Nyadri, Nebbi, Apac and Lira are the leading producers of honey (Figure 3.2).

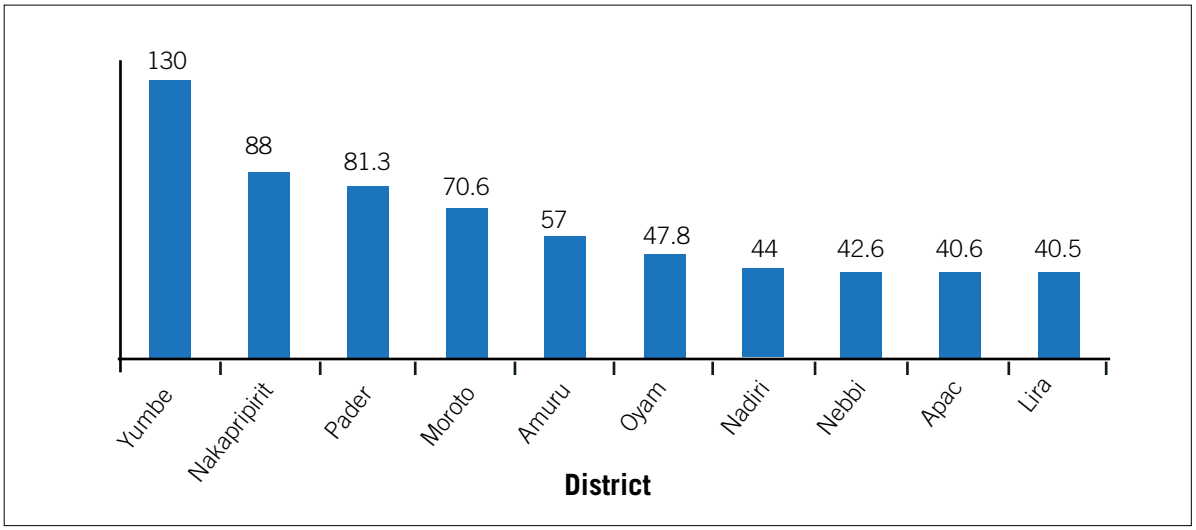


Figure 3.2: Honey production in Uganda by district (MSP Report, 2011)

The majority of beekeepers in Uganda are small scale producers mainly using traditional hives (KTB and Langstroth) and indigenous management practices to maintain their bee colonies. It is estimated that there are about 2 million hives with 66% getting colonized per season (MSP, 2011). The total number of bee hives owned by the interviewed farmers/farmers groups range from 1 to160 with an average of 28 hives per farmer.

The most common types of bee hives used in honey production are the KTB and Langstroth hives used by over 56% of farmer groups interviewed (Figure 3.3).

However, according to MSP (2011), the traditional hives account for 87% of the total hives in Uganda with the Kenya Top Bar and Langstroth accounting for only 13%. The discrepancy may be due to the fact that the sudy focussed on farmer groups, and not individual farmers. Farmer groups are more likely to access and adopt improved beehives due to low transaction costs involved in accessing capacity building opportunities and purchase of inputs in bulk.

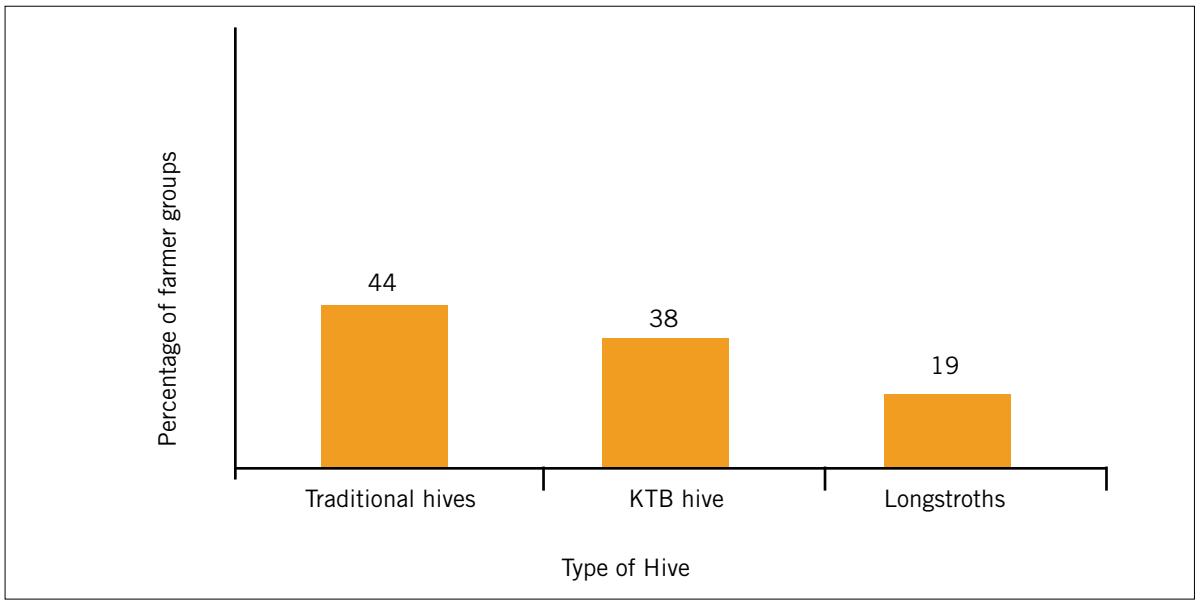


Figure 3.3: Types of hives used by the farmer groups in honey production

Traditional hives and modern hives (KTB and Langstroth) differ in terms of their origin, material make, advantages and disadvantages as shown in Table 3.1:

Table 3.1: Comparison between Modern and Traditional Hives

Description	Traditional hive	Kenyan Top Bar hive	Langstroth hive
Origin	Uganda	Kenya	USA
Material	Bark of trees, reeds	Hive is made from normal high humid timber	Made with kiln-dried timber
Advantages	• It is affordable and can be easily made even by the farmers themselves. • Minimal skill is required to manage the hive, extract and process honey. • When the hive is properly managed, yields can reach over 10kgs of honey per season though depending on size of hive.	• Yield is slightly more than that of the traditional hive. • Cheaper than Langstroth. • Management is slightly cheaper than Langstroth. • Each comb is movable and can be shifted or taken out for inspection. • When moving combs, bees are gently handled and less alarmed. • Few guard bees required at the entrance holes; the colony feels safe. • No need of placing the hives on tall trees.	• Made with kiln-dried timber giving the beehive longer life • Resists bad weather • Detachable floor and roof which makes inspection much easier • Bees build combs following the shape of the frame. The combs do not break when harvesting • Using a queen excluder between the super box and the brood box guarantees pure honey when harvesting • The roof insulator with ply board and aluminium top reduces heat in the hive
Dis-advantages	• Made with reeds or material which warp and lose shape over time • Shorter life span and is susceptible to predators • It is fixed making inspection difficult and virtually impossible • No wax foundation is used in the traditional hive; it takes longer for bees to build combs • Harvesting is cumbersome; it requires cutting the combs off the hive walls • Harvest is restricted to two or three times per year; the combs are removed and bees take time to re -construct them • Not easy to detect bee diseases or pests in the colonies • Especially difficult for women during hanging and cropping	• Hive surface is not adequately protected making it susceptible to predators. • The bars do not have support for the combs making harvesting problematic as combs tend to break. • Roof is made with corrugated galvanized sheet with inadequate insulation. This causes excessive heat build-up which makes bees to abscond. • Expensive when made of wood. • Close management of colonies for profitability is required.	• The hive is expensive • Require special skills and machines for management and harvesting e.g. centrifuges • Processing of honey also requires special extraction machines

Source: Adopted from Dathine Agricultural Consult Ltd, 2006

3.1.2 Productivity of Bee Hives

The productivity of different hives varies and is dependent on the type of hive used, as well as the management practices applied. The current productivities of traditional, KTB and langstroth are 5Kg/Hive/Season, 12Kg/Hive/Season and 14Kg/Hive/Season while their potential productivities are 15 Kg/Hive/Season, 26 Kg/Hive/Season and 60 Kg/Hive/Season respectively. Based on the difference between the current productivities and the potential productivities, the yield gaps of the three hives were 67%, 54% and 77% respectively (SNV, 2009).

Although traditional bee hives have the least productivity, they are still the most preferred by majority of the bee keepers. This is attributed to their low cost, availability of local materials for making them and ease of construction and harvest.

Although beekeepers using the Langstroth hive experience the highest productivity, there is still a huge yield gap of 77% from the potential yield. Interestingly, beekeepers using the KTB hive reported the lowest yield gap of 54%. This probably is as a result of intensive training of farmers in adoption and use of the KTB. Major players in the sector like SNV have built the capacity of many farmers on how to use the higher yielding KTB.

It should be noted that the productivity of these bee hives is also dependent on: the size of the hive, siting of the hives and type of vegetation around the hives' site. These influence the strength of the bee colony and the honey yield. In addition to determining honey productivity, vegetation also affects flavour, colour and viscosity of honey.

3.2 Processing of Honey in Uganda

Producers and small scale traders carry out primary processing (the major processing level of Ugandan honey) and sell their honey to bigger traders. Some producers bottle their honey and sell it directly to the final consumers. Secondary processing is done in processing factories. In this case, beekeepers sell their honey to packers and processors. Once processed, the processors sell the honey to retail outlets.

3.3 Marketing and Consumption of Honey in Uganda

3.3.1 Marketing of Honey

Honey is marketed and sold in many forms:

- Crude honey is a mash of combs and honey including brood and dead bees. This is the lowest grade of honey and has the lowest price. This is either kept for home consumption, sold in the local market or sold on to a honey processor. Beekeepers who aim for a higher quality refined or comb honey in order to attract premium price.
- Semi-refined honey is the liquid honey that remains when the wax has been skimmed off the top of crude honey. Semi-refined honey still contains particles of wax and other debris. It attracts a higher price than crude honey.
- Refined honey is strained to remove all particles of beeswax and other material making it the purest form of honey. This grade of honey fetches high prices in the market and can compete favourably with imported honey.
- Chunk honey - Whole combs of capped honey can be carefully harvested from the beehive and pieces of the comb put into the jars of liquid honey. This gives the consumer confidence that the honey is not adulterated. Although chunk honey fetches higher price than refined honey in many countries, it is usually be sold in the local market due to its fragility.
- Comb honey - Honeycombs with a white capping highly marketable in many countries and command a very high price. This type of honey is unexposed to air and has finer flavour than honey that has been processed in any way. However, due to the fragility of comb honey, it is difficult to transport and can only be traded in local markets.

Currently, the domestic market consumes 95% of all the honey produced locally with the rest being exported. However, the Ugandan market is under-supplied and a significant amount of honey consumed in the domestic market is imported, mainly targeting the rapidly growing number of supermarkets and grocery shops in major towns such as Kampala, Jinja, Entebbe, Mbarara, Lira, Gulu, Arua and Mbale. Local brands dominate the market and compete more favourably mainly on prices against the imported brands from Kenya, United Arab Emirates, Germany, UK, Dubai and Switzerland. Imported brands however compete better in packaging and quality as is proven by the long shelf life.

It is worth noting that importers of honey dominate trade in Uganda. Some of these importers are mobile traders who deal in combed honey and sell it to processors. This is very common in West Nile where traders come from DRC. Bee products are mainly traded in form of pure honey, combed honey, boiled honey, propolis, bee wax and honey wine. In addition, royal jelly, pollen and venom are bee products that are traded in their unprocessed form (UEPB & MAAIF, 2005).

The honey products market is segmented into local, regional and global markets. The local market is further subdivided into two: price sensitive and quality sensitive. The price sensitive market is a price-driven market that is dominated by informal traders. These normally sell honey in re-used plastic containers and this honey is of inferior quality. The study found out that there is a lot of trade that happens at farmer gate with some farmers selling directly to final consumers within local communities.

The quality sensitive market caters for the middle and high class consumers who usually buy honey from supermarkets. This market segment goes for better quality. The honey is normally packed in convenient 500 g, 250 g and 100 g plastic jars. The supermarket shelf prices for a 500 g jar of honey was reported to be between UGX 3,000 and UGX 3, 800 (US$ 1.8 to US$ 2.2) in 2006. At the time of this study, pure filtered honey (un-boiled) was fetching better prices compared to other honey products. The selling price of pure honey was between UGX4, 575/Kg and UGX 12,000/Kg.

These prices are equivalent to USD4 which is higher than the EU retail prices of U$1 - 3 per Kg. This shows the high potential for upgrading the chain to locally produce and locally sell pure honey.

The high income consumers, like the expatriates and high income earners however, stated that they preferred to purchase imported honey because it was better packaged. Most Ugandan honey was packed in jars, which were described by consumers as "messy" and easy to spill when serving. They preferred to pay a premium price (which most did not find significantly higher) for the imported plastic bottled honey, that would simply ooze out of the bottle by mere pressing (squeezable bottles). They also preferred the imported honey for its longer shelf-life.

Generally, the quality of most of the honey sold on the local market is still inferior. This is mostly attributed to rudimentary harvesting and processing methods at farm level, where farmers use burning grass during harvesting and squeeze the honey using cloths. This is one of the biggest reasons why even the quality of different brands varies significantly.

3.3.2 Consumption

Reasons underlying consumption of honey are: its perceived medicinal value, it's a substitute for sugar and in local communities and it is used as a major ingredient for specialty porridge (enturire), a delicacy at traditional wedding ceremonies. There is also an increasing level of demand for honey as an ingredient for herbal medicine, pharmaceutical and cosmetic industries in Uganda, East African Community common market and COMESA (MSP report 2011).

Data on the performance of the honey sector, especially on domestic and regional demand, is insufficient to give a clear picture of the performance of these honey markets. In general, little documentation has been done owing to the recent commercialization of production of honey. However, there is strong evidence that the demand for honey in both markets is higher than its supply.

According to PMA (2005), there is a huge demand for honey in Uganda of up to 3,600 MT annually. However, with only an estimated annual production of 1,538 MT, there is a deficit of 2,062 MT/pa.

3.4 Honey Exports and Imports in Uganda

A significant amount of honey targeting middle and high income population is imported. This is shown by the different imported brands on the shelves of supermarkets and grocery shops around the major towns/ cities. According to ITC (2012), all honey imported into Uganda is in form of natural honey. It is estimated that, the imports have increased from 26 MT in 2005 to 69 MT in 2011, representing 165% increase (Figure 3.4). In 2011, most of the natural honey came from Kenya (30%), U.A.E (30%), Tanzania (28%), Pakistan (9%) and Italy (2%) (Figure 3.5). Other countries that have been exporting honey to Uganda in the past include Egypt and UK.

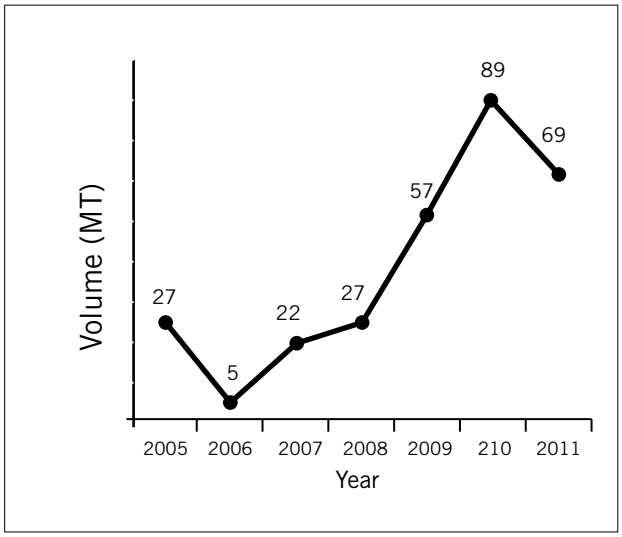


Figure 3.4: Imported natural honey – trend (ITC, 2012)

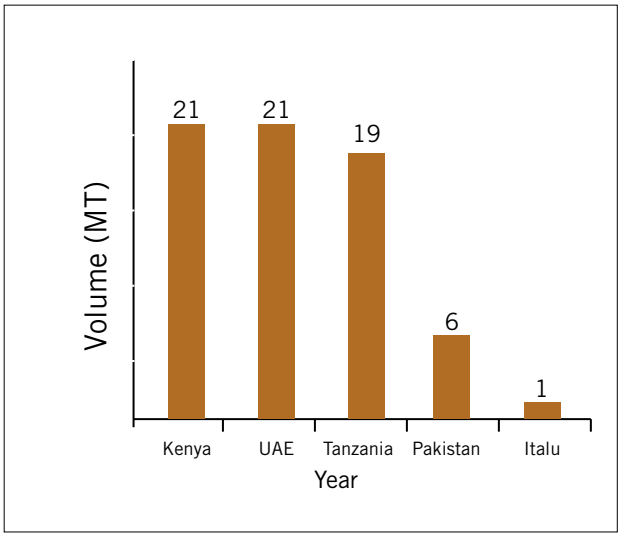


Figure 3.5: Major exporters of natural honey to Uganda (ITC, 2012)

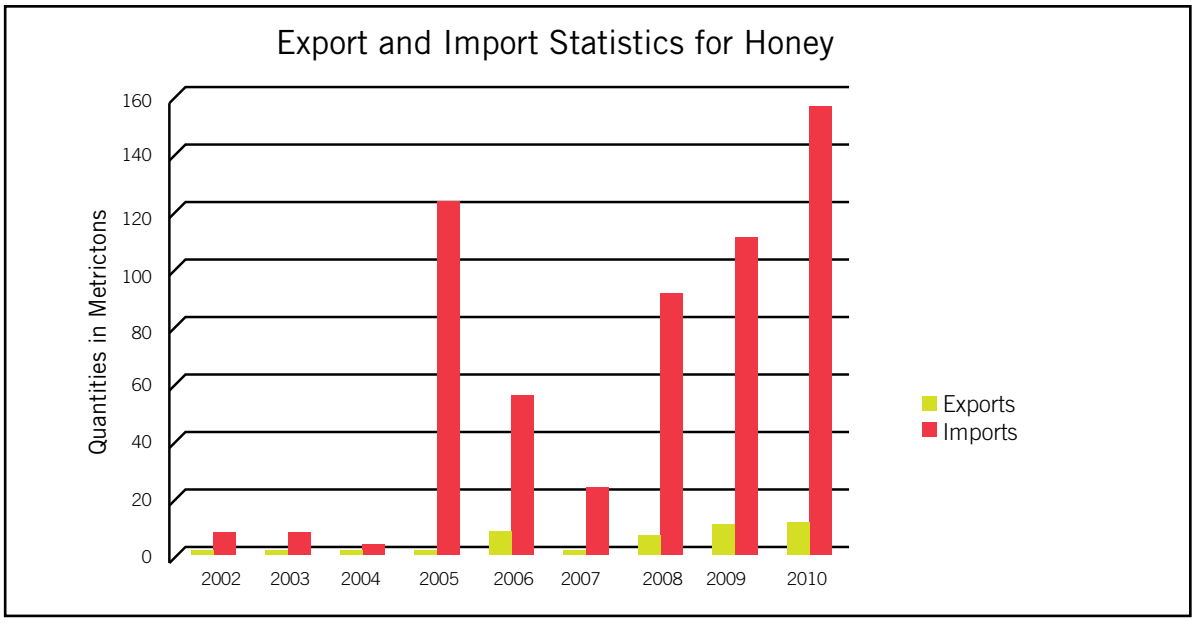


Figure 3.6: Export and import Volumes (in Metric tons) of honey (Adapted from MSP report, 2011)

There is no clear explanation of the drastic increase in imports, both in volume and value. Perhaps this is brought about by the rapid rise of supermarkets (including foreign supermarkets, such as Nakumatt, Uchumi, Shoprite, Tuskys and Capital shoppers) coupled with increasing consumer incomes as a result of steady economic growth.

The supply deficit of honey at national level is also reflected at the traders' level where those interviewed indicated that often, they failed to obtain even 50% of the amount of honey they planned to trade in a given year, as shown in Figure 3.7a. The reasons for this are ranked in Figure 3.7b. Poor apiary management resulting in low yields was given as the leading cause of the supply deficit.

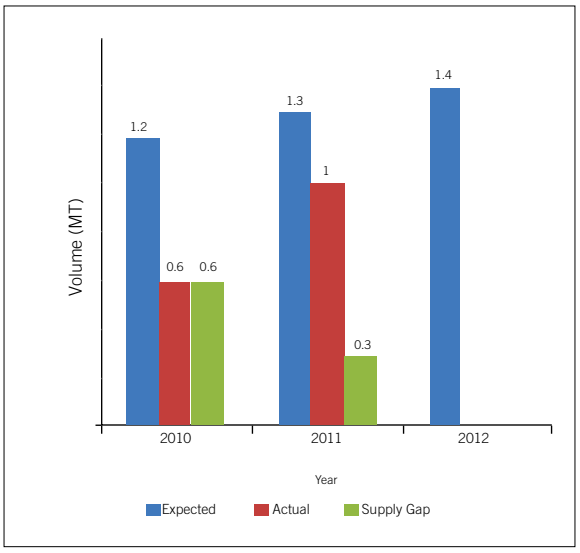


Figure 3.7a: Supply gap at traders' level

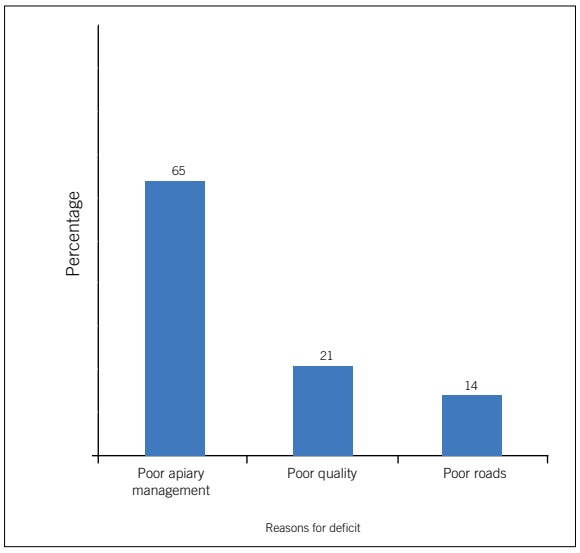


Figure 3.7b: Causes of the supply gap

Traders interviewed reported that their biggest suppliers of honey were the importers and village collectors (Figure 3.8a). Other suppliers included individual farmers, farmer groups, traders in the open market and processors. On the other hand, the main buyers of honey from these traders included their fellow traders, processors and individual consumers (Figure 3.8b).

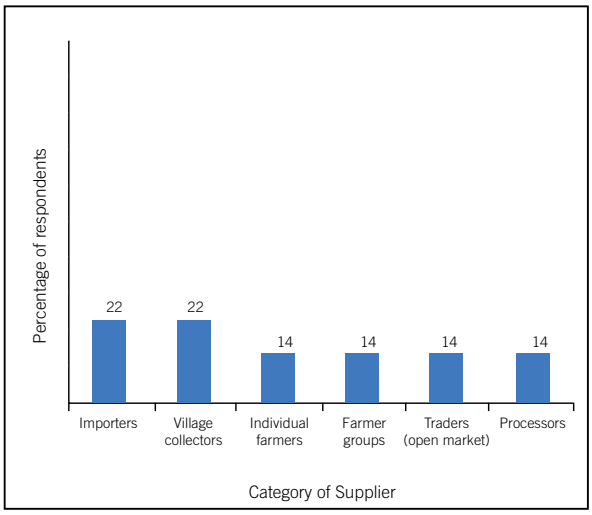


Figure 3.8 a: Source of honey procured by traders

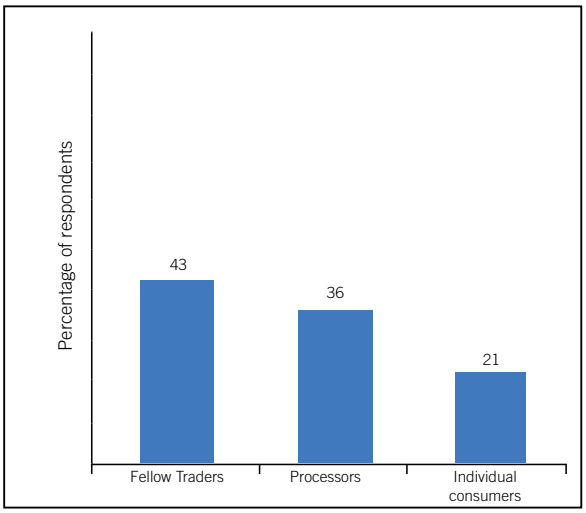


Figure 3.8 b: Major customers at traders' level

3.5 Mapping of the Honey Value Chain

3.5.1 Honey value chain core processes

Figure 3.10 shows the key interrelated activities/processes that enable honey as the end product to reach the final consumer right from inputs supplier.

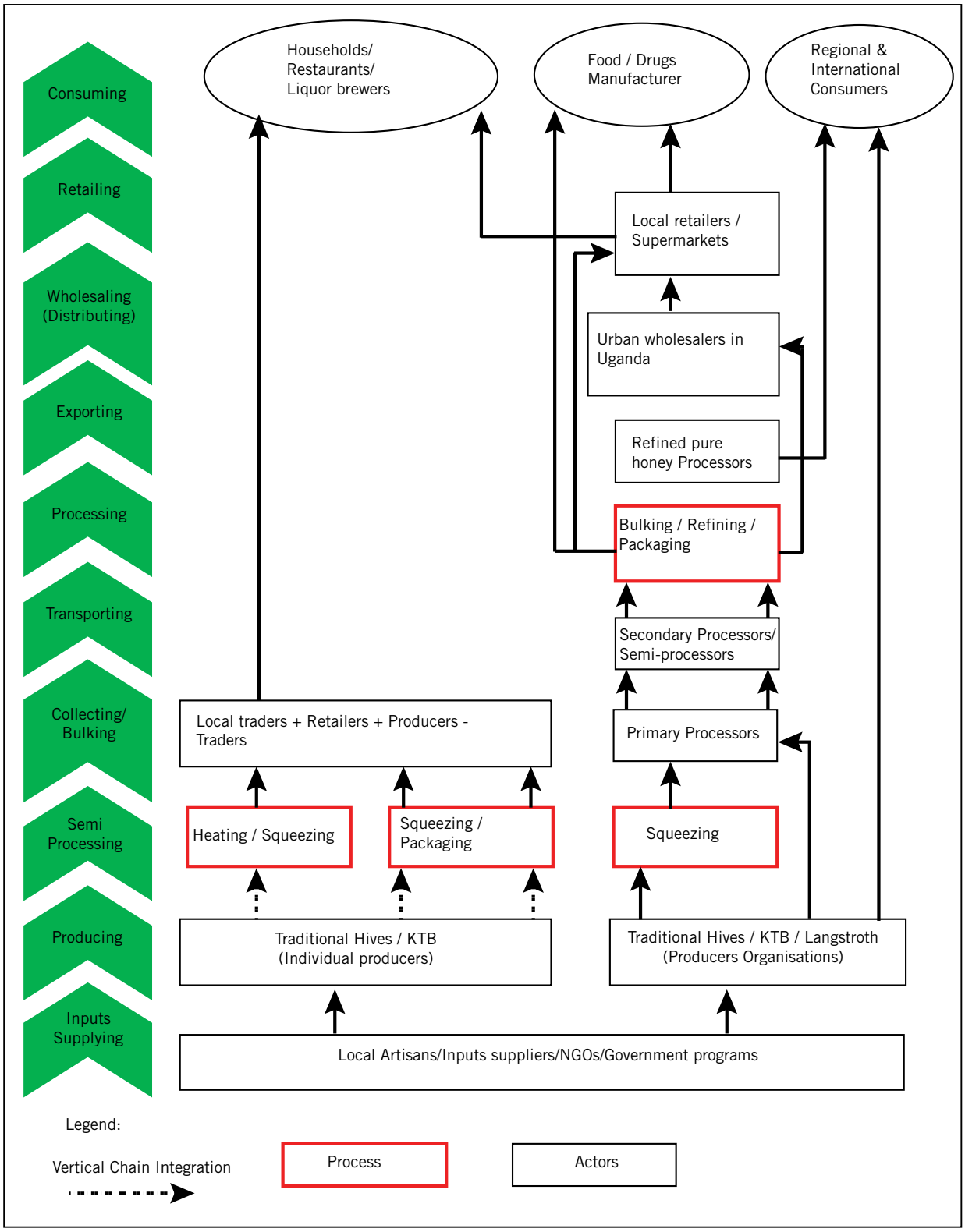


Figure 3.10: Honey value chain core processes

3.5.2 The Honey value chain actors and functions

The main actors in the honey value chain are: input suppliers, bee keepers (producers), bulkers, processors, transporters who also double as traders, processors, exporters, wholesalers, retailers and consumers (Figure 3.11).

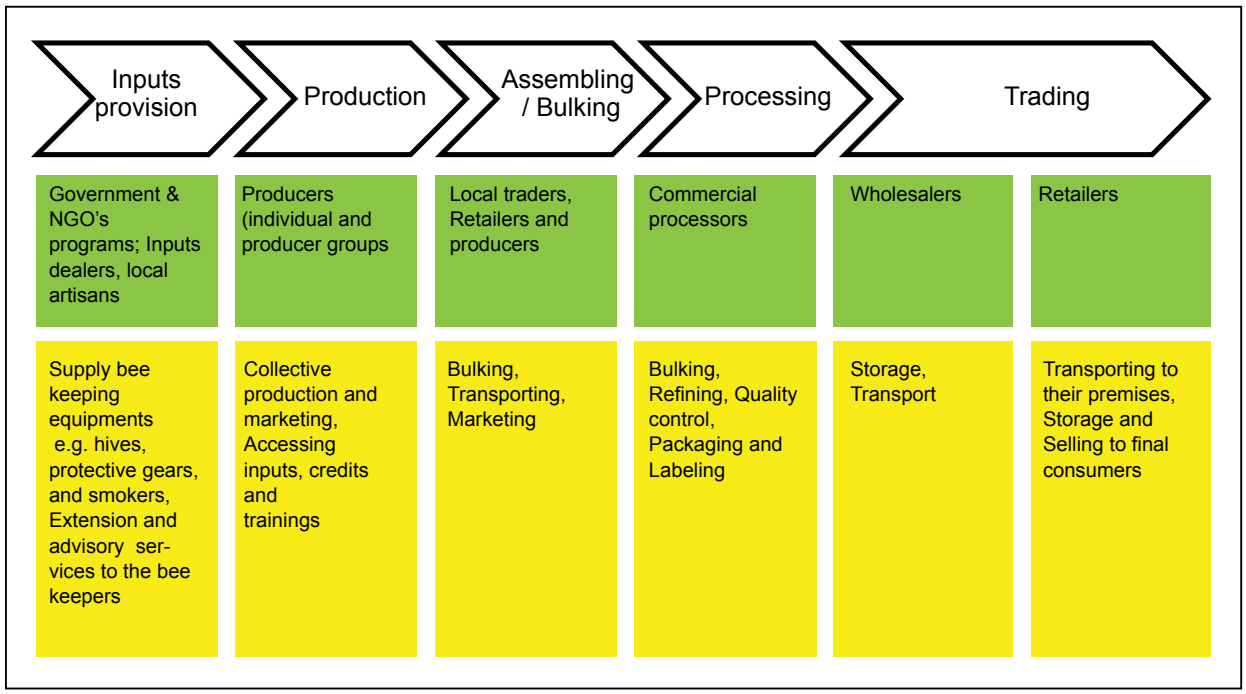


Figure 3.11 Honey value chain actors and functions map

Inputs suppliers: There are some specialized inputs suppliers such as East African Beekeepers Limited who deal specifically with bee-keeping related inputs. These inputs include beehives (KTB and Langstroth), bee suits, honey extractors, air-tight buckets, smokers and gloves. There are also local beehive manufacturers who make the traditional hives from tree logs.

Producers (bee-keepers): These are organized into producer groups for ease of access to training services especially from the government through NAADS. Others are organized by NGOs such as SNV while others work individually as independent bee keepers. They can be divided broadly into:

a) Traditional bee-keepers who use traditional bee-hives made from logs or pot hives and

b) Modern bee keepers who use improved bee-hives such as the KTB and Langstroth hives sometimes in addition to traditional bee-hives.

Beekeepers who belong to groups engage in collective production and marketing, accessing inputs, credit and training.

Marketing: Beekeepers sell their honey through the following channels:

a. Local shops - bottled and labelled honey is sold directly to local shops.

b. At the farm gate - Some people flock the farm to buy the honey directly from the producers.

c. On the roadside – some beekeepers set up stalls which they locate in appropriate places such as the market or along a busy route; this attracts a good number of customers.

d. In bulk – Some beekeepers form associations to collect and market the bee products of beekeepers in an area.

Bulkers: This is majorly done by the local middlemen and/or retailers and sometimes producers. Their aim is to raise adequate quantities for sale to end consumers in urban centres or liquor brewers. There are producers who buy from others, package and sell in local retail shops. They usually deal with semi-processed/liquid honey. Major processors such as Bee Natural Uganda (BNU) carry out the bulking through purchasing/ collection from different individual farmers and/or traders or contracted out-growers.

Processors: Unlike commercial processors who undertake standardized processing, labelling and packaging, there are others such as traders and producers who only do extraction of liquid honey from the honey combs. Some of the local processors include: BNU, Egusta Processors, Blessed Bees (Yumbe), Jambo Honey, Obaya Community Association, Gates Honey and Aryodi Farm. Some of the methods that are affordable to the non-commercial processors include:

a) Cold Dripping Method (CDM): This is the most commonly used by the semi-processors. Combs are sliced and filtered overnight through a mesh or net. This may be repeated to ensure good product quality. CDM method is easy and economical as there is no need for sophisticated equipment. With regard to honey recovery, it is not very efficient as substantial amounts of honey do remain in the combs. However, CDM produces very clear honey.

b) Pressing method

   i. Pressing method using a cloth: This is a traditional method of extracting honey from the honeycombs by hand pressing the honeycombs in a clean cloth and honey oozes out of the cloth into a storage bucket. Sometimes honey crystallizes while in the honeycomb and this makes it difficult to extract. In this case the honeycomb is heated so that the wax floats on top and is removed after cooling. These methods are not efficient and results in inferior quality honey which attracts low prices.

   ii. Pressing method using a pressing machine: It is not commonly used because of the high cost of pressing machines. However, the amount of honey per volume of combs is high compared to other methods.

Transporters: Major processors such as BNU offer transport services by collecting honey from designated points from the areas of production. On the other hand, traders and middlemen who sell their honey to urban centres such as Kampala majorly use public transport. However, the public means result to honey losses from contamination.

Exporters: Exporters of Ugandan honey to the EU, one of the major export markets, must meet the rigorous requirements set by the EU Honey Legislation Standard and the EC Food Safety Standard. Some of the exporters such as EastWest Innovations Uganda Ltd (EWI) export to various destinations including the EU, Japan, Switzerland, Malaysia and Singapore. The inability of most Ugandan exporters to penetrate the EU market due to the stringent standards and expensive packaging requirements has forced them to stick to cross-border trade within the EAC. This situation is further aggravated by the fact that, honey prices in the EU market appear less attractive than those in domestic and regional markets due to the high cost of transaction.

Wholesalers: Wholesaling quite often forms an integral part of the roles of the major processors such as BNPL who sell in bulk to the local retailers and supermarket chains such as Nakumatt, Uchumi, Shoprite, Tuskys and Capital shoppers.

Retailers: The major retailers dealing in honey are both local and foreign supermarket chains, for example Nakumatt, Uchumi, Shoprite, Tuskys and Capital Shoppers. Honey sold in these outlets is packaged in glass and plastic jars and bottles.

Consumers: Honey is used in households as a preferred sweetener in beverages, especially for diabetics. It is also consumed in its raw state (honey combs) or spread on bread. It is also used in brewing of liquor and wine. In the food industry, honey is used as an ingredient for example in making whole wheat bread.

Honey is also used for medicinal purposes:

a) Honey has antiseptic and antibacterial properties been used in first aid treatment especially for wounds, burns and cuts.

b) Traditional uses of honey include honey mixed with lemon for sore throats and it has also been used for stomach pains.

c) Honey has also been used in the cosmetics industry for making skin-care products as well coating for drugs in the pharmaceuticals industry.

3.5.3 Flow of Honey Volumes along Different Marketing Channels

Raw honey flows through three different channels (Figure 3.12). About 75% of honey is sold as combed and semi-processed to both processors and producer-processors. Producer-processors are beekeepers who engage themselves in small-scale processing and packaging. The second channel, takes upto 15% of the raw honey and it links producers directly to retailers. In this case, producers pack the raw honey in airtight buckets and distribute to retailers for selling to consumers who prefer the raw honey. The remaining 10% is retained for home consumption and for social ties especially handouts to friends and neighbours.

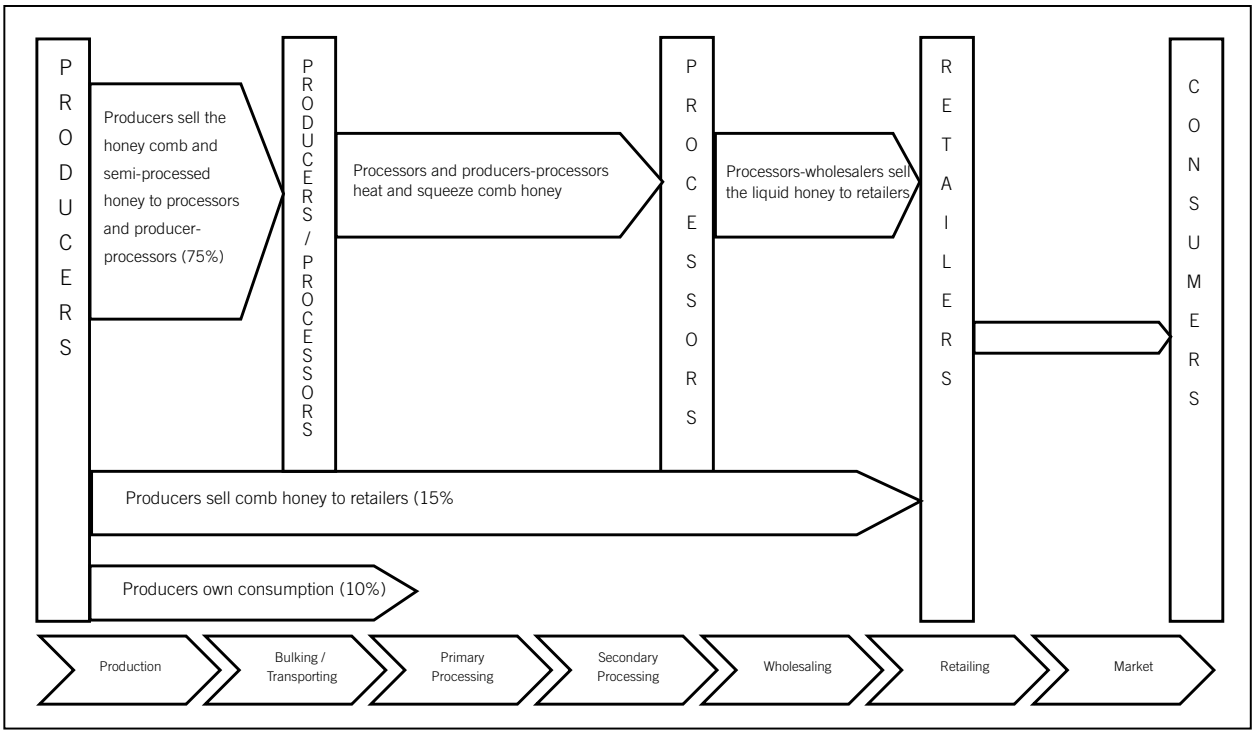


Figure 3.12: Volume flows of liquid honey along different channels

3.5.4 Geographical Trade Flow of Honey

There is some considerable cross border trade involving both informal imports and exports (Figure 3.13). Imports are mainly from Rwanda to Ntungamo and from DRC to Nebbi and Arua in the West Nile region. It is interesting to note that there are exports from each of the two districts to DRC. Another interesting observation is that Ntungamo which is very close to Bushenyi imports informally from Rwanda while Bushenyi exports to Rwanda. This could imply that some honey from Bushenyi could be ending up in Ntungamo after going through Rwanda. Other informal exports are mainly to South Sudan and Kenya. Kenya buys semi processed honey from Uganda at a relatively low price then purifies it and formally re-exports to Uganda certified (KEBS) honey which is sold in local supermarkets thus fetching premium prices.

Kampala is a major hub where all the honey from different parts of the country and from other countries is traded. Large volumes of the traded honey are mainly from West Nile Region. Most of the honey going to Jinja passes through Kampala.

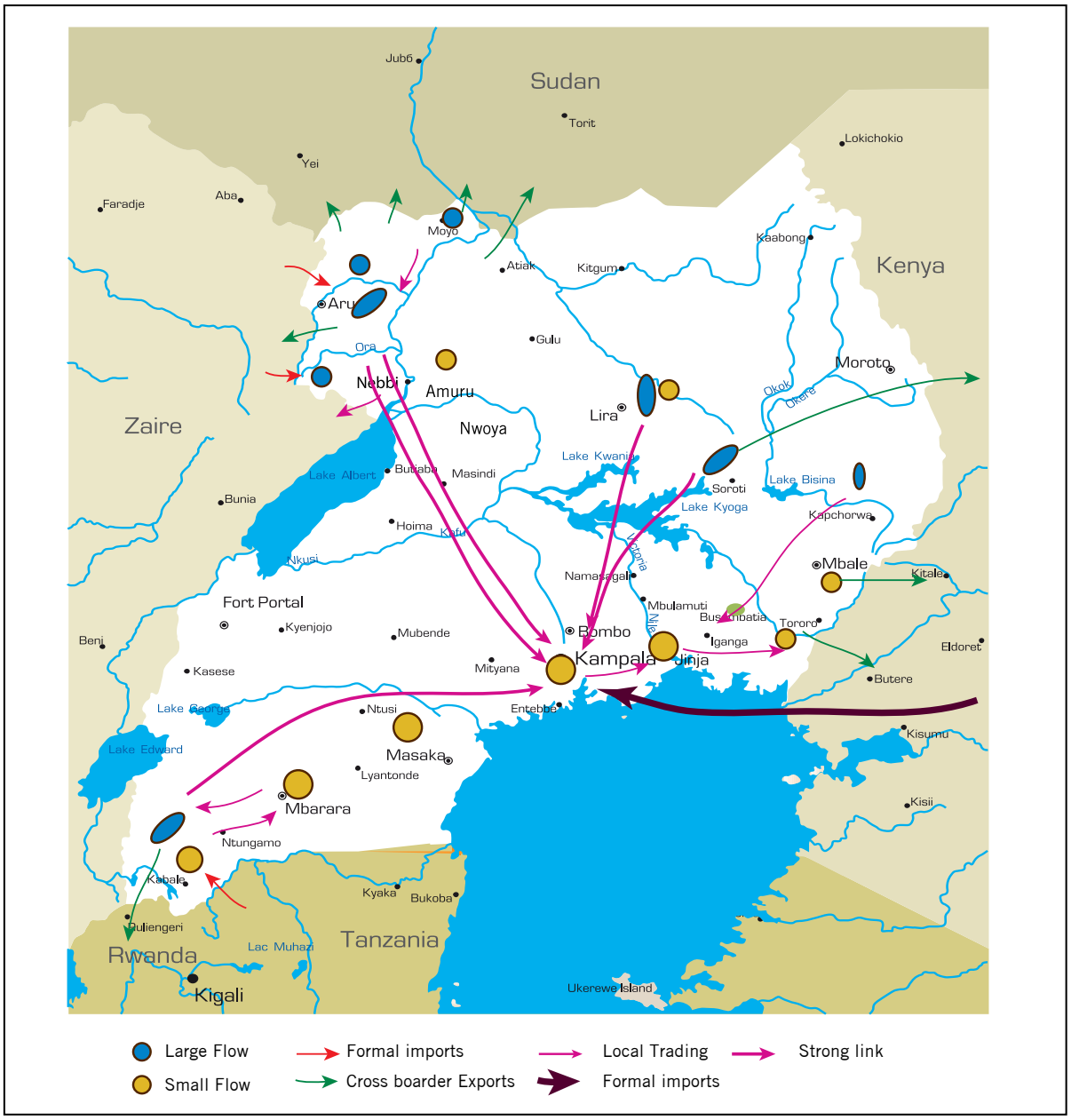


Figure 3.13: Honey Geographical Trade flow

3.5.5 Level of Employments in the Honey Value Chain

A report by the Ministry of Agriculture, Animal Industry and Fisheries (2009) on apiculture value chain in the West Nile region, one of the highest honey producing regions in Uganda indicated that there are clear lines of gender disaggregation of roles depending on the nature of the tasks. Making of hives and harvesting gear are exclusive domains of men. However, in the sewing of harvesting gear, women took up about 52% of the activity. Men owned the apiaries and women were noted to only play a role of giving a helping hand. Nonetheless, women participated in demonstrations and most of the farmer groups were dominated by women. Thus, women participation could be said to be higher at farmer groups level than in family apiaries.

It emerged from the survey that there are a myriad of activities that are carried out at the production stage ranging from site clearance to hive setting (Figure 3.13). These activities are performed once and as such, bee keepers have to employ people only at the inception of a bee keeping enterprise. On average, 6 people are required to clear an acre of an apiary site for two days at an average wage rate of UGX 6,000/day. On the other hand, more recurrent activities such as honey harvesting are done single handedly at an average cost of UGX 8000/day. In agreement with a report by MAAIF (2007), bee keeping tasks at farm level were found to be largely the precinct of men.

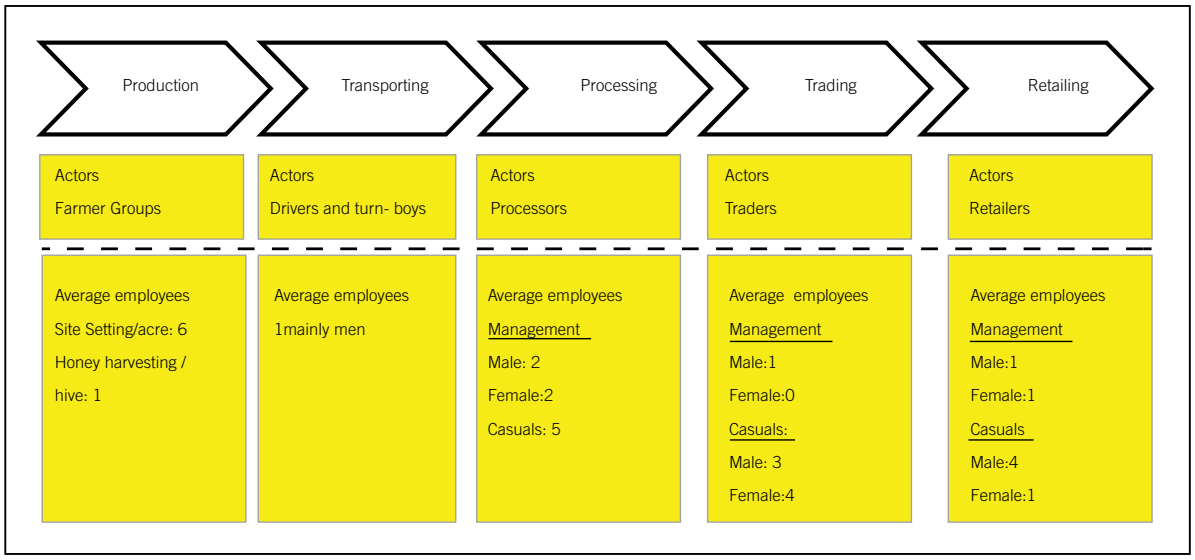


Figure 3.13: Level of Employments in the Value Chain

However, contrary to findings by the Ministry of Agriculture (2009) on honey value chain in the West Nile Region of Uganda, data collected during the survey showed that both men and women hold management positions at the processing stage (Figure 3.14).

Interestingly, temporary employment at the trading stage is dominated by women (ratio of women:men is 4:3). On average, more women than men were employed as casual labourers at this stage and earned an average monthly wage of UGX 150,000. This finding is supportive of reports from the African Honey Magazine (2011) that 90% of the people involved in honey marketing in neighbouring DRC are women. However, honey retailers on average employ more men (4) than women (1) on temporary basis at an average wage rate of UGX 250,000/month.

Figure 3.14 shows the workload distribution by gender as reported by the farmer groups interviewed for this study. The majority of farmers reported that all key tasks are shared equally between men and women. The figure also shows that apart from honey processing, men conduct most of the activities. Women dominate the marketing and processing activities.

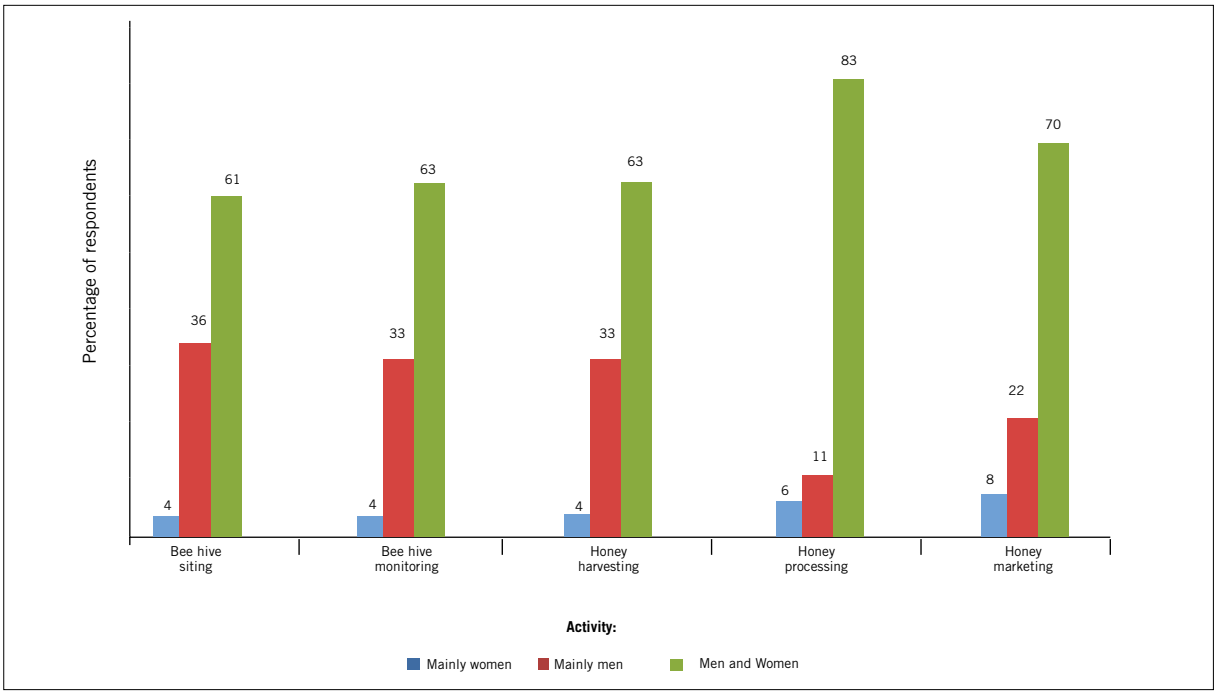


Figure 3.14 Workload distribution by gender in honey production

3.5.6 Value Addition and Value Capture along the Chain

Figure 3.15 depicts the prices in UGX/Kg at each node of the chain. For example, the processors buy liquid honey at an average price of UGX 4,000/Kg from the producers and sell at an average price of UGX 9,000/Kg to the wholesalers. This means that there was a value of UGX 5,000/Kg added. The percentage share of value was expressed as the ration of margin to the consumer price.

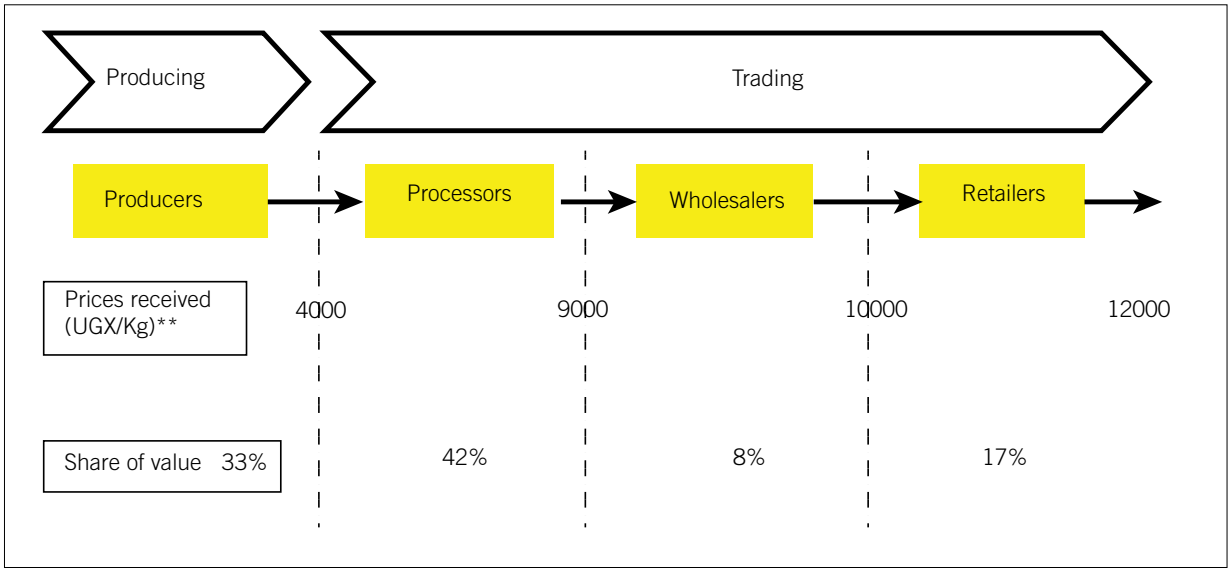
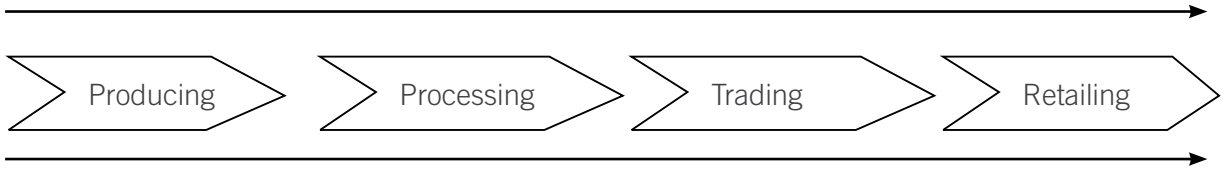


Figure 3.15: The Honey Prices-Share Map

Notes
- **The prices received and used for the calculation of the value shares are averages based on primary data.
- The assumption made in this case is that the wholesalers and the retailers do not buy from the producers directly as is sometimes the case.

3.5.7 Costs and Gross Margins

Profitability of honey to various stages of the value chain was summarized in Figure 3.16 where farmers sell combed, semi-processed and processed honey and obtain the following respective gross margins/kg: UGX 1,435/Kg, UGX 2,780/Kg and UGX 3,060/Kg respectively for the different forms of honey. This finding underlies the importance of value addition of honey at farm level to attract better margins for the farmers.



Producers	Processors	Wholesalers	Retailers
Average selling prices (UGX/kg) Raw Honey: 2,580 Semi-processed honey: 6,000 Processed honey: 10,700	Selling Prices (UGX/Kg) Liquid honey =5,600	Selling Prices (UGX/Kg) Combed honey=9,150 Liquid honey=8,300	Selling Prices (UGX/Kg) Combed honey=7,300 Liquid honey=8,300
Average Cost of producing Honey (UGX/Kg) Raw Honey: 1,145 Semi-processed Honey: 3,220 Processed Honey: 7,640	Buying prices (UGX/Kg) Combed honey= 2,975	Buying prices (UGX/Kg) Combed honey = 3500 Liquid honey = 3,500	Buying prices (UGX/Kg) Combed honey = 3500 Liquid honey = 3,500
GM (UGX/Kg) Raw Honey: 1,435 Semi-processed Honey: 2,780 Processed Honey: 3,060	GM (UGX/Kg) Liquid honey: 2, 625	GM (UGX/Kg) Liquid Honey= 5,650 Combed Honey = 4,800	GM (UGX/Kg) Liquid Honey= 4800 Combed Honey = 3,800

Figure 3.16: Costs and Gross Margins

Profitability of farmers also depends on the type of hive used with modern hives outperforming traditional hives. Respective range of total revenue per season by type of hive include: Traditional (UGX 12,500-35,000/hive/season), KTB (UGX 25,000-52,500/hive/season), and Langstroth (UGX 75,000-140,000/hive/season). The cost-benefit analysis of the three types of hives used in Uganda is shown in Tables 3.3.

Table 3.3: Cost benefit analysis of traditional, KTB and Langstroth hives

Type of Hive	Estimated cost	Harvests in a season	Yield/ season (Kg)	Selling price (UGX/Kg)	Total revenue (UGX)	Products
Traditional Hive	10,000 - 50,000	1	5 - 10	2,500 - 3,500	(12,500 - 17500) - (25000 - 35000)	Honey, Wax, Propolis, Pollen
Kenya Top Bar (KTB)	85000	1	10 - 15	2,500 - 3,500	(25,000 - 35,000) - (37500 - 52500)	Honey, Wax, Propolis, Pollen
Langstroth Hive	150,000	2 - 3	15 - 20	2,500 - 3,500	(75000 - 105000) - (100000 - 140000)	Honey & Pollen

Source: Adopted from, Bee House Products Ltd, 2012

Processors of honey buy combed honey and sell liquid honey after processing. The gross margins at processing level of UGX 2,625/kg are surprisingly lower than what is realized at farm level for combed honey. Perhaps the difference can be explained by incremental costs such as for bulking and transportation which processors incur. Since most processors are operating at low capacity, they do not benefit much from economies of scale.

It was revealed from the survey that wholesalers and retailers deal in combed and liquid honey although the former is to a lesser extent. While the wholesalers and retailers buy honey at the same prices, they capture different gross margins from their respective markets. Gross margin for combed honey at wholesaling level from the producers is UGX 1,000/kg more than at retailing level. On the other hand, liquid honey, the most traded form of honey, has a gross margin of UGX 5,650/kg and UGX 4,800/kg for wholesalers and retailers, respectively. Analysis of the gross margins along the honey value chain as presented in Figure 3.16 shows that all factors held constant, honey enterprise is most profitable at the wholesaling stage.

3.5.8 Honey Value Chain Institutions Horizontal and Vertical Linkages

Established linkages in the honey value chain consist of the relationships between local artisans and producers, producers and processors, producers and retailers and processors and retailers. The linkages between local artisans and producers are strong because of the ability of the artisans to copy and adapt modern hives (KTB and Langstroth) to local conditions. This creativity is tremendously reducing cost of modern hives.

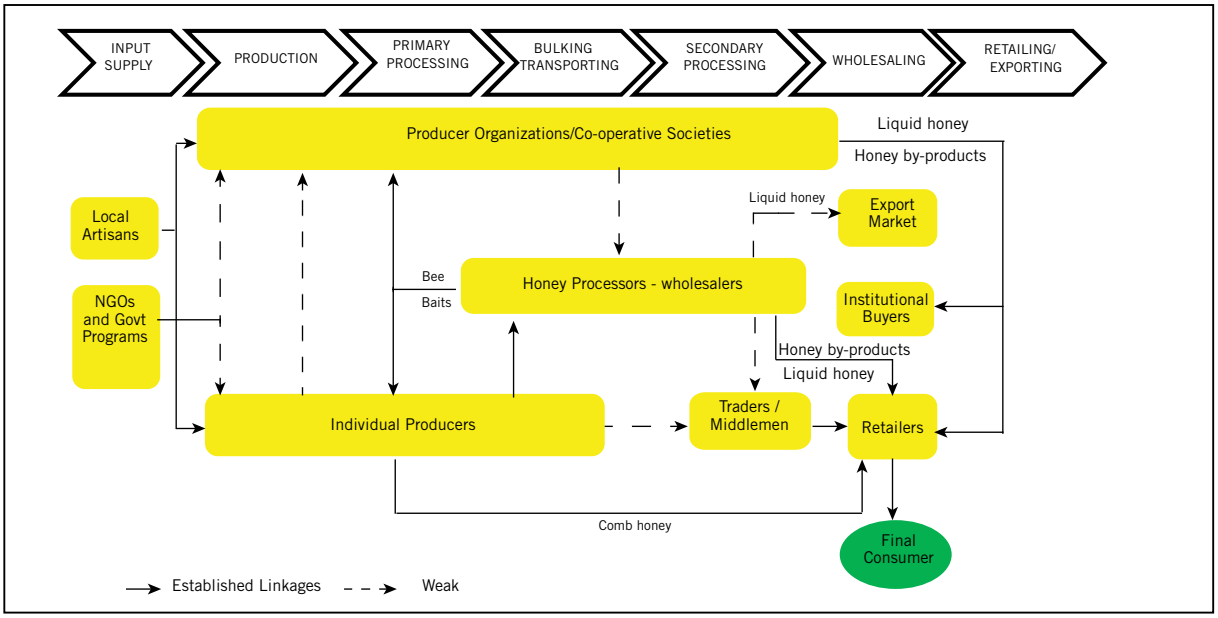


Figure: 3.17: Map of Value Chain Institutions Horizontal and Vertical Linkages

Linkages between producers and processors are established through establishment of collection centres (by processors) for the producers to deliver their raw honey. Moreover, bee baits (bee wax) which are by-products of the processors are sold back to the producers for use in attracting bees to un-colonized hives.

The strong relationship between producers and retailers is demonstrated by the fact that there is a good percentage (approximately 15%) of raw honey that is packed by producers and distributed directly to retailers for selling to consumers who prefer raw honey. The established linkages between processors and retailers is characterized by short-term contracts between the two parties where processors are supposed to supply certain amount of liquid honey to retailers, especially supermarkets, within a given period of time.

Weak linkages in this chain are noted between producer organizations and individual producers, producer organizations and processors, middlemen and processors/producers and processors and export market. Due to low yields, most producers and/or processors fail to fulfil their orders. When this is the case, some producer organizations, individual producers or processors aggregate honey from other actors. Since abrupt orders do not occur often, the linkages between these parties are weak.

The weak linkages which involve processors and export market are the result of processors failing to meet quality and safety standards set by international buyers. This contributes to frequent collapse of the relationships between the two parties. The weak links with middlemen are mainly caused by the overall short honey value chain with most producers and processors being able to single-handedly perform most functions along the chain thus weakening the role of the middlemen.

3.5.9 Existing Formal Business Linkages with Market Off-takers

Most honey trade is informal with sourcing from spot markets being common. As an illustration, 64% of the respondents interviewed did not have formal contracts with their suppliers. Processors with contracts do not get sufficient honey from their contracted suppliers. On average, 11% is supplied by contracted suppliers. The rest is purchased in an ad hoc manner from traders or the open market. Most of the processors with contracts have contractual periods lasting 1 -3 years.

The conditions specified in most contracts include: supplying to the factory, availability of a reliable and committed group representative/leader and commitment to supply at least one tone per consignment.

Half of the respondents interviewed were willing to enter into contractual arrangements with their suppliers, irrespective of whether or not they were already engaged in contracts.

The following terms and conditions were stated to be key by the processors and suppliers who were willing to enter into formal agreements:

a) The processor has to purchase all the honey delivered by the supplier as agreed.

b) Prices should be negotiable (especially upwards if the market prices are way above the contract prices).

c) Timely payment as scheduled in the contract but preferably, upon delivery.

d) The suppliers must be equipped with sound business skills to ensure that their contractors do not exploit them, and to ensure that they are able to consistently meet the requirements of their contractors.

e) Suppliers must be committed to supplying good quality honey.

f) In order to meet the volumes required, some processors recommended that suppliers be organized into groups to make aggregation of honey easier and more cost effective for the group and the processor.

3.5.10 Service Providers in the Honey Value Chain

The uniqueness of the honey value chain is typified by the service providers that support it and the specificity of their operations. The service providers in the honey sub-sector are best exemplified by SNV, a Netherlands development agency. SNV has made a mark in provision of services in the apiculture sub-sector in Uganda, such as facilitation of multi-stakeholder platforms, promotion of dialogue and joint learning, and capacity building of the keepers. SOCADIDO, a Catholic affiliated NGO in Soroti district was reported to be providing improved beehives to honey producer groups. Generally, farming enterprises suffer from paucity of financial services. Government organizations such as NAADS have also joined forces with NGOs in provision of advisory and extension services to the honey value chain actors (Figure 3.18).

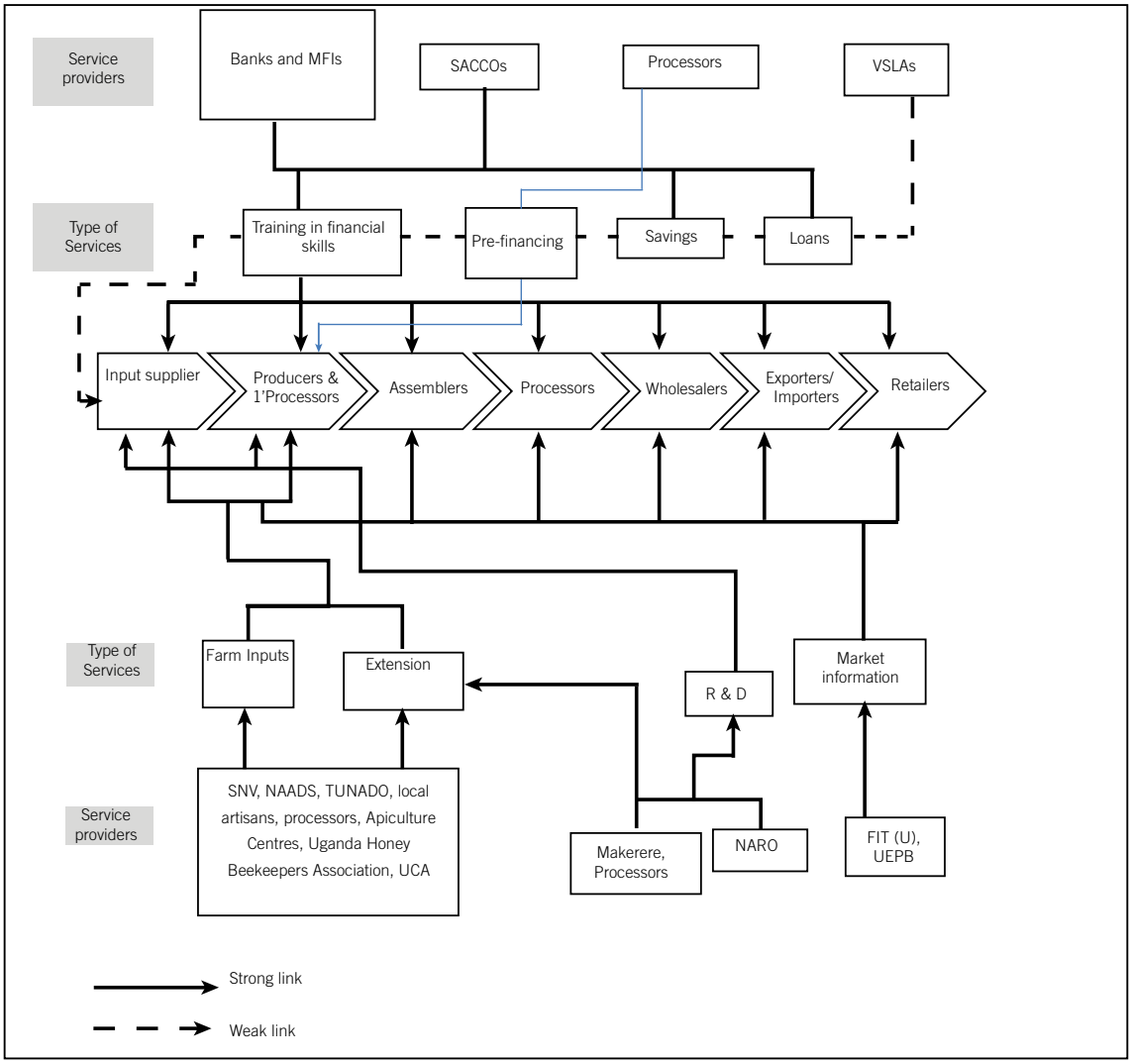


Figure: 3.18: Value chain Services

Integration of service provision has taken place being exemplified by cases like SOCADIDO a Catholic affiliated organization that offer BDS and is also a honey processor and wholesaler. Other organisations like SNV and WENIPS mainly provide Business Development Services to processors and traders of honey. SNV also provides training in the use of modern beehives and harvesting equipment, an effort geared towards encouraging the input suppliers to stock these inputs.

3.5.10.1 Market information service providers

Most market information providers are not commodity specific. However, there are a few such as Connoisseur Honey Co-operative that are honey specific. Information on commodities and prices of inputs was the most commonly provided information by about 83% of all the market information providers interviewed, although they were still faced with the challenge of lack of standardised measurements (units) for communicating prices.

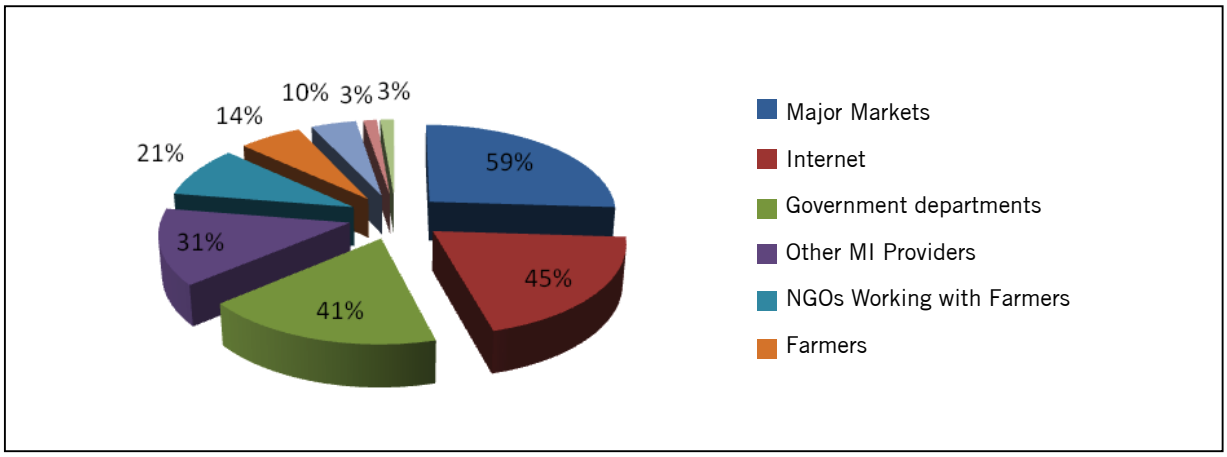


Figure 3.19: Major Sources of information for the market Information providers

Figure 3.19 shows the ranking of the major sources of information for the market information providers. Major markets (where honey is traded), the internet, and government departments were the most utilized sources. Information from government departments which include: NARO, NAADS//District commercial offices, UEPB and Uganda Investment Authority (UIA) is got from their websites or through the various workshops they organize.

About 35% of respondents were members of relevant association(s) such as the Uganda Business Information Network (UBIN). UBIN is a component within the United Nations Industrial Development Organisation (UNIDO) supported by Uganda Integrated Program (UIP). Arua Business Information Center and Iganga District Business Information center are members of UBIN. Other associations that draw membership from the respondents are: UNFFE, TUNADO, Association of Micro Finance Institutions (AMFIU), Uganda National Farmers' Association, and The Uganda National Chamber of Commerce and Industry (UNCCI). The major clients for the market information providers seemed to be producer groups, individual farmers and traders.

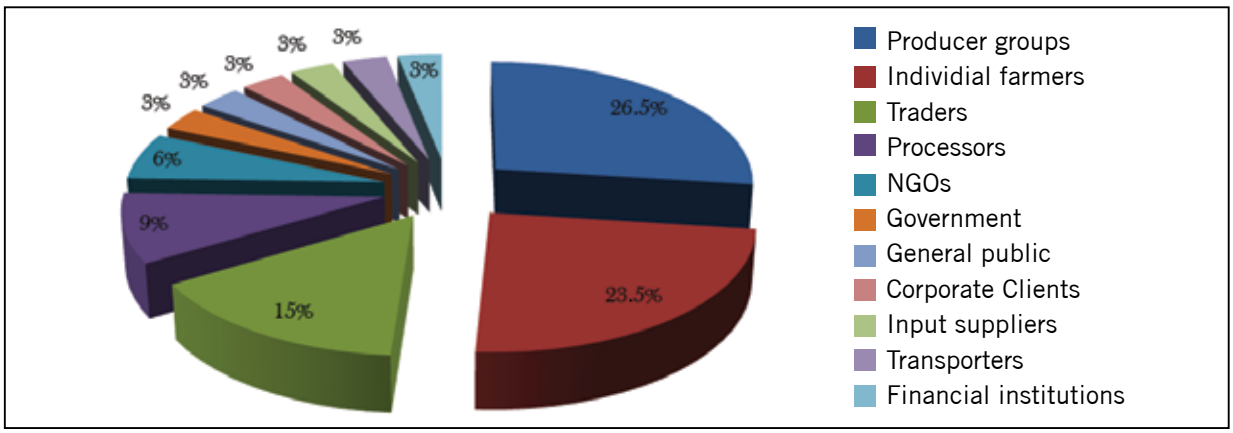


Figure 3.20: Summary of major clients of Market Information Providers

The major clients for the market information providers seemed to be producer groups, individual farmers and traders.

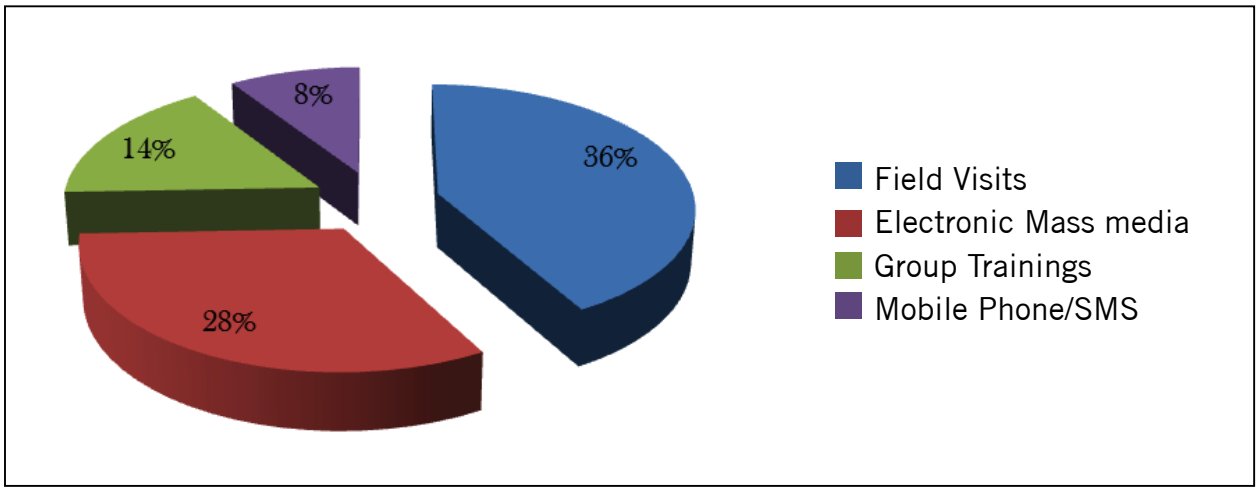


Figure 3.21: Mode of information delivery by the market information providers

The most popular modes of delivering market information were field visits, pre-recorded radio programs, mobile phone SMS, Radio/TV talk-shows and group trainings. The SMS system which costs between UGX 50/SMS to UGX 220/SMS was handy in delivering information on prices (both local and international). Electronic mass media which included pre-recorded radio programs and radio/TV talk shows was the most expensive mode of delivering information. However, although it was the most expensive means, costing as much as UGX 500,000/program/advert aired, it was the second preferred mode of information delivery by 28% of the audience after SMS. The field visits encompass farmer field schools (FFS) and groups formed by NAADS for purposes of dissemination of advisory services.

3.5.10.2 Technical & business development service (T&BDS) providers

The most dominant type of bee hive reported by the bee keepers was the traditional type (44%) such as the log hives, followed by the KTB hives (34%) with the least used being the Langstroths hives (18%) as shown in Figure 3.22.

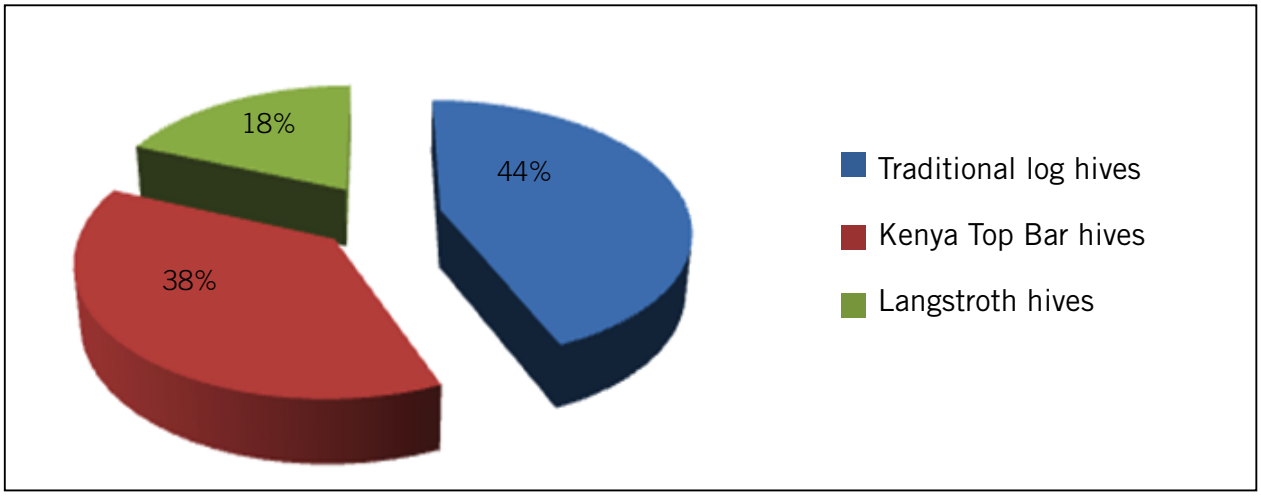


Figure 3.22: Types of bee hives used in honey production

The available technologies are based on three types of hives, Traditional log hives, Kenyan Top Bar hives, and Langstroth hives (Figure 3.23). Langstroth hives have the highest returns followed by Kenyan Top Bar. However, traditional technology is the cheapest option for starters and requires a minimal start-up cost as compared to Kenyan Top Bar or Langstroth. This is one of the reasons why traditional hives are still the most popular among producers.

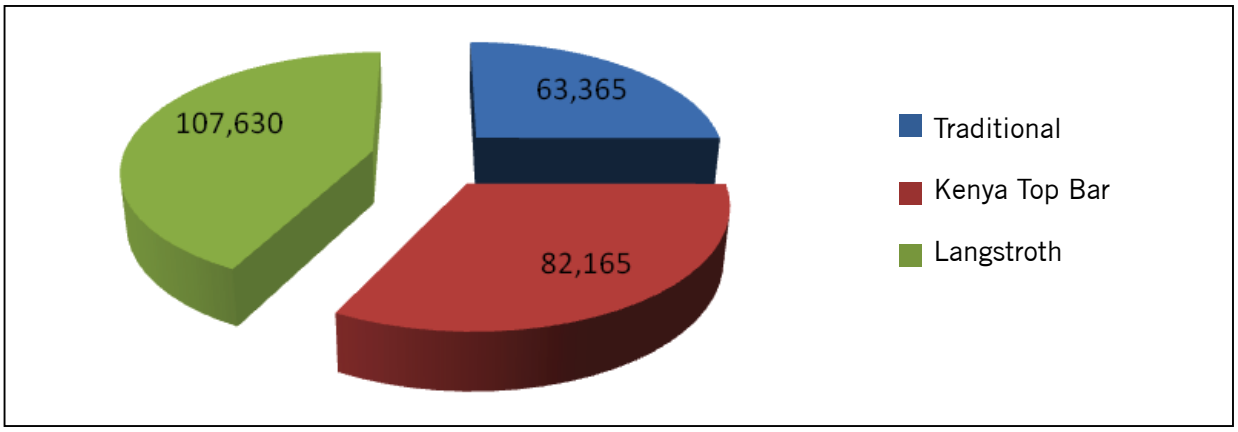


Figure 3.23: Hive technologies and their net returns in shillings

3.5.10.3 Financial service providers

Financial Service providers consisted of commercial banks, SACCOs, Microfinance institutions, VSLAs, Credit institutions, and International Development Organization (IDO), MDI, NGO and risk capital providers. The results indicated that, most financial service providers have ventured into provision of financial services and products within the agricultural sector. The study further showed that the provision of financial services is not a preserve of financial institutions only but also involved are local NGOs and IDOs through their various projects and programs. Notably, most farmers and small traders reported to have received financial services from the VSLAs and SACCOs. The biggest disadvantage of these sources of finance is the insufficient amounts of credit received by the actors. The credit amount received was reported as not sufficient to acquire assets in order to significantly expand production and/or trade.

Other financial service providers like MFIs and commercial banks usually had more stringent requirements like collateral, which most farmers are unable to meet. These therefore served the bigger traders and processors. Among all value chain actors visited, none reported to have received any financial services from equity investors. This was because the equity investors' requirements were difficult for a largely un-structured commodity sector like honey. However, because of the rapidly growing market, one equity investor interviewed said he was already investing in one of the biggest processors of honey in the northern region.

3.6 Policy and Institutional Environment underlying the Honey Value Chain

3.6.1 Agriculture Sector Development Strategy and Investment Plan (DSIP)

DIMAT is designed to support the implementation of Agriculture Sector Development Strategy and Investment Plan (DSIP) (2010/11-2014/15). This section therefore reviews the specific targets and indicators of DSIP that DIMAT can focus on given the findings of this study.

To recap, the DSIP is guided by a vision of an agricultural sector in Uganda that is: "Competitive, Profitable and Sustainable". The mission is to "transform subsistence farming to commercial agriculture". Therefore, DIMAT needs to ensure that its interventions directly or indirectly lead to a critical number of producers "graduating" from subsistence farming to farming as business operating sustainable commercial small and medium size enterprises.

Therefore, to adequately support the mission of the DSIP, it is suggested that, with respect to the honey sub-sector DIMAT focuses on contribution to the following indicators of DSIP:

a) Percentage of household's agricultural output marketed, by district
   DIMAT can easily contribute to this in the honey sub-sector because honey produced by targeted households is already being marketed. The main area of intervention will be to improve the structure of the trade, increase value addition by producers, as well as the quality of products sold so as to ensure profitability and commercial sustainability of the producers' enterprises.

b) Percentage of rural population using formal banking services
Honey sub-sector provides a relatively better opportunity for contributing to this compared to other food staples because of its tradability which is attractive to financial institutions. However, what DIMAT should focus on is supporting cost-effective financing models that will support SMEs of producers and other actors in the value chain to build assets and profitability so as to become attractive to formal banking institutions. This is because many "short-cut" approaches have been tried in the past and failed.

c) Percentage of farmers who are Farmers Group (FG) members; Number of FG doing collective marketing by district; Percentage change in sales of selected agro-enterprises; and Value of supported agro-processing initiatives by district –
Supporting these set of indicators is a pre-requisite for other indicators mentioned above.

3.6.2 The National Apiculture Policy

The Policy provides the framework for development of the honey sub-sector in Uganda. The policy aims to; promote and support the production of honey and other bee products in a sustainable, environmentally friendly manner, ensure quality control of honey and other bee products, promote and support a reliable market for honey and other bee products, promote and support the creation of appropriate training opportunities for extension service providers, the farmers, and processors of honey and other bee products.

Further, the policy aims at promotion of research, protect the national bee colony from diseases and pests, enhance the sharing of information among all the key stakeholders in the apiculture industry and promote and support the establishment of an apex body for apiculture industry.

The National Apiculture Policy stipulates the implementation of standards and regulations and the mechanism to effectively achieve this goal. UNBS has developed four honey quality standards. These standards clearly spell out parameters for good quality honey, apiary management standards, handling and processing of bee products, labelling and packaging of honey and other bee products and general standards of food and drinks hygiene. UNBS operates a product quality certification scheme aimed at assuring consumers that the product conforms to Uganda's standards of good quality honey and bee products.

Export markets, particularly the European Union (EU), United States of America (USA), Japan, Canada, South Africa, have other quality standards for the honey and bee products, which become relevant to Uganda whenever there are exports to those countries. Currently, the most applicable and stringent standards are the EU's National Residue Monitoring Plan (NRMP). Uganda has been passed as one of the countries that meet the requirements of the NRMP, hence eligible to export honey and bee products to the EU, USA, Japan and South Africa.

3.6.3 The Uganda Apiculture Export Strategy

The strategy primarily focuses on developing and marketing of the available bee products especially in the EU and the USA. The mode of the strategy implementation is through stakeholder investments and private-private partnerships. The major goals of the strategy include; advocacy for sector development enabling environment and policy, strengthening the private sector institutional framework involved in the development of the apiary industry, increasing the technical capacity of the sector to meet market requirements, attracting the necessary investment in the sector, modernizing the production and processing systems along the entire value chain, promoting the products in the regional and international markets mainly by branding Uganda as a source of natural and organic specialty honeys.

3.6.4 MAAIF and Related Organizations

Structurally, MAAIF consists of the headquarters; seven semi-autonomous organizations and departments devolved to district level. The Department of Livestock Health and Entomology has been designated as the competent authority for Honey sub-sector. Some of the semi-autonomous bodies and current and planned programs relevant to the honey sub-sector are described in turn in the subsequent paragraphs.

National Agricultural Advisory Services (NAADS) has five components namely: advisory and information services to farmers, technology development and linkages with markets, quality assurance - regulation and technical auditing of service providers, private sector institutional development and programme management and monitoring and evaluation. The apiculture sector is one of the priority areas within NAADS. NAADS provides the following services to honey producers in Uganda: free inputs such as Kenya Top Bar hives, trainings on good apiculture practices, technology development and promotion, supporting farmers to establish market linkages and market information regarding such as prices of honey in different local and international markets.

Uganda National Bureau of Standards (UNBS) has revised and developed the Uganda Honey Standards Manual. The other existing national analytical laboratory accredited for honey is Chemiphar.

3.7 On-going and Previous Interventions in the Honey Value Chain

Besides linkages between micro and meso-level actors, the honey value chain is supported by other organizations/ institutions at the macro-level. These organizations have different roles and responsibilities right from technology development, dissemination, production, processing, transporting and marketing. These include bilateral partners, NGOs, government ministries and related agencies and private sector organisations including business development service providers (Figure 3.29).

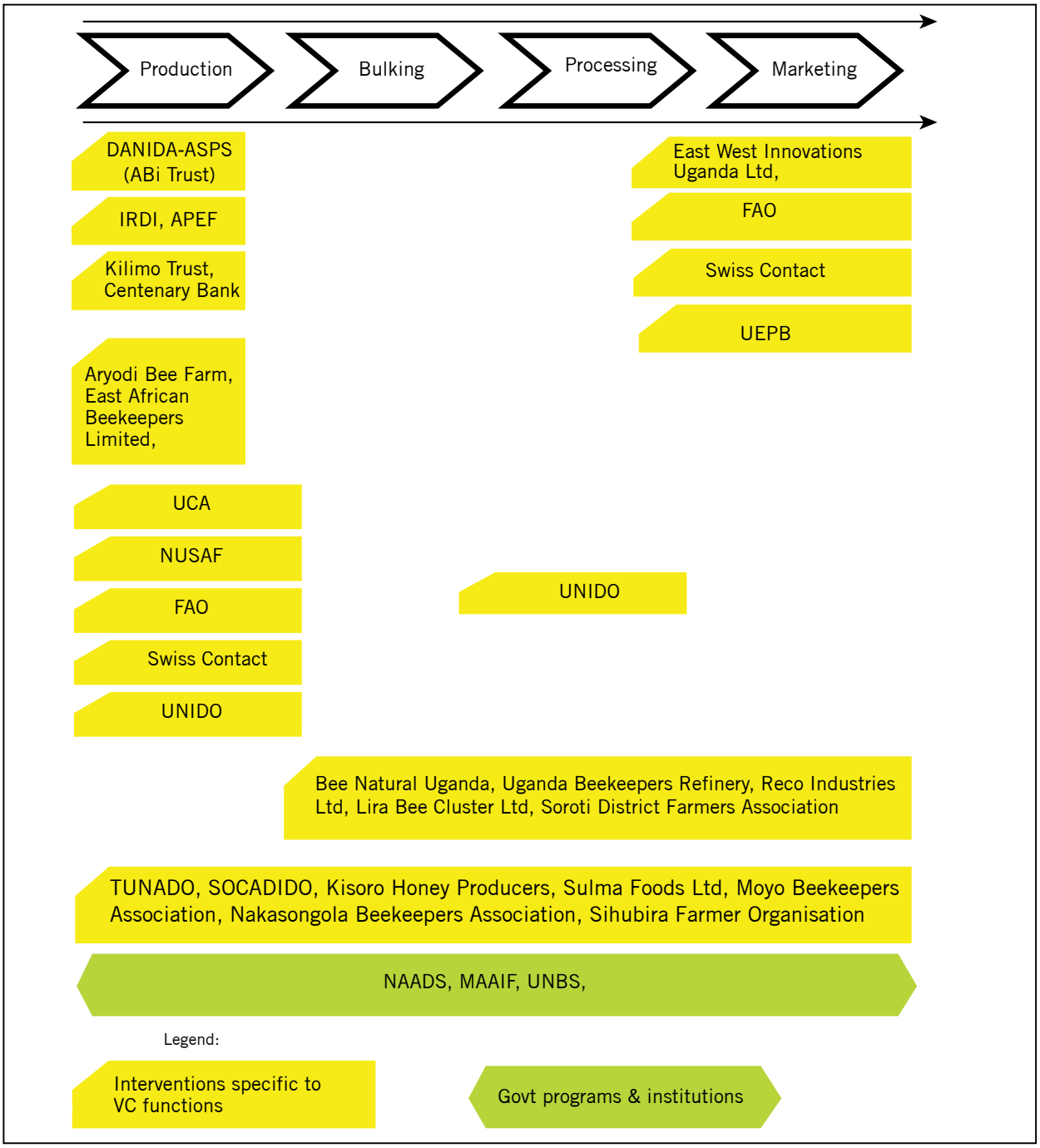


Figure 3.29: Map of Ongoing Interventions in the Honey Value Chain

There are different organisations and development partners at each stage of the value chain. At the production level, support is mainly skewed towards training of farmers (SNV, APEF), supply of bee hives (East African beekeepers Ltd, NUSAF) and financial services (DANIDA's aBi Trust).
The bulking level is dominated by producer organisations such as Moyo Beekeepers Association, Nakasongola Beekeepers Association, Sihubira Farmer and a few processors (SULMA & BNU).

UNIDO is the only known development organisation offering support at the processing level.

The marketing level has support by organisations such as Swiss Contact who have a project with SULMA foods and FAO who have been developing market linkages. Public institutions such as UEPB are also working at this level in areas related to export marketing.

Other government institutions such as MAAIF, NAADS, and UNBS cut across the whole chain creating an enabling policy environment and quality control. Development organizations have projects/programs targeting the various stages of the value chain such as production, bulking, processing and marketing. Some of them e.g SNV focus on several aspects of the honey value chain including production, bulking, processing and marketing.

Others such as IFAD and FAO have been providing support towards development of the honey value chain in Uganda and the EAC region as a whole

The following is a brief description of some of the development organizations and/or their programs:

a) Swiss Contact support to Sulma Foods limited Project: This project is working with farmers in Nakasongola and Luweero districts in facilitation of attainment of certification for their honey, mobilizing and training in business development skills, supporting in acquiring improved hives and is providing technical assistance in queen bee multiplication and the establishment of a honey center.
b) FAO- Improvement of food Security in cross border districts of Uganda Program: The project is aimed at increasing and improving living standards of small rural household beekeepers in the districts of Kabale, Kisoro and Kasese. The project enables farmers to access improved Langstroth beehives so as to increase productivity per hive. In addition the project is enabling farmers to market their honey by linking them to market off-takers such as supermarkets in the region that purchase refined honey. The project also facilitates farmer institutional development and linkages to service providers especially market information and input suppliers.

c) United Nations Industrial Development Organization (UNIDO): UNIDO has supported processors in the West Nile region, especially Bee Natural Uganda's staff, in quality management systems, good manufacturing practices, good hygiene practices and HACCP. UNIDO also supported training of beekeepers and honey handlers on good apiary practices and good honey harvesting techniques in the districts of Moyo, Koboko, Yumbe, Arua and Nebbi. In addition, UNIDO installed honey processing units in Yumbe district.

d) The Netherland International Development Fund (SNV): SNV provides agricultural value chain development services through farmer training in business skills development. In addition, the organization builds farmers' capacity in improvement of production by facilitating access to improved hives, improved processing and branding techniques.

e) ABI Trust; Agribusiness financial support to NGOs and platforms, facilitating organizations and/or their programs with potential for collaboration.

Non-governmental organizations that provide development support in the honey sub-sector include; SOCADIDO, Bees for Development UK, ICIPE, Care International, VEDCO, Kilimo Trust, Hives Save Lives Africa, World Vision and ICRAF Uganda . A brief description of services provided by each is given below.

a) Agricultural Productivity Enhancement Forum (APEF): Provides extension services and input supply for farmers in Nebbi district, including beekeeping farmers.

b) Soroti Catholic Diocese Integrated Development Organization (SOCADIDO): Buys, processes and markets honey under brand name of TESO Natural Honey. In addition, it trains farmers in siting of beehives and creates market linkages for apiary farmers.

c) Integrated Rural Development Initiative (IRDI): Trains farmers in basic beekeeping skills in Kamuli district.

d) Northern Uganda Social Action Fund (NUSAF): Supplies KTB hives to farmers in northern Uganda.

Therefore, it is clear that there is limited support at the bulking and processing levels. In addition, at the marketing level, current interventions are focused on market linkages which create an opportunity for other market related interventions such as certification programs.

3.7.1 Public institutions

Public institutions that collaborate and support honey development include: The Ministry of Agriculture, Animal Industry and Fisheries which offers overall guidance and policy direction. The ministry implements projects in the honey sub-sector through the National Apiculture Policy. The Uganda Export Promotion Board is actively involved in marketing of honey in international markets- export development, including market research, trade promotion and export documentation guided by the Uganda Apiculture Export Strategy. NAADS provides extension services to farmers and inputs such as improved hives, especially the Kenya Top Bar hives. UNBS operates a Product Quality Certification Scheme as one of its services to the apiculture sub-sector, in addition to enforcement

of the honey standards. National Livestock Resources Research Institute (NALIRI) spearheads apiculture research.

3.7.2 BMOS

All the different actors along the value chains are affiliated to business member organizations (BMOs) which are apex bodies. These BMOs mainly advocate for favourable policy environment for their members. Below is a list of identified BMO's in the honey sub sector:

a) The Uganda National Apiculture Development Organization (TUNADO); Is the umbrella organization that coordinates all activities relating to the honey value chain in the apiculture sub-sector. It was established with the mandate of government as the National apex body responsible for coordinating all stakeholders within apiculture sector in Uganda. Some of the stakeholders include; Uganda Honey Bee Keepers Association (which is the largest producer), IRDI, Kabarole Beekeepers Association (KBA), Lira Beekeepers Associations, Hoima district Entomology department, Nakasongola district Entomology department, Mbarara district Entomology department and Soroti district Entomology department.

b) Soroti District Farmers Association (SODIFA); Training of beekeeping groups, provide advisory services, processing and packing of honey, marketing and promotions for members' products.

c) Uganda Cooperative Alliance; farmer mobilization and training

Table 2.5: BMOS in honey sub-sector

	BMO's
1)	Bunyagabo Bee keepers Cooperative Society
2)	Mt. Elgon Bee keeping Community
3)	Connoisseur Honeys Cooperative- Bushenyi
4)	Bwindi Beekeepers Development Association
5)	Kabale Municipality Modern Beekeepers Association (KAMUMBA)
6)	Kabarole Beekeepers Association Ltd (KBA)
7)	Kamwenge Beekeepers Credit & Savings Cooperative (KABECOS)
8)	Kapchorwa Community Development Association (KACODA)
9)	Kitgum Women Beekeepers Association (KITWOBEE)
10)	Dakabela rural women development association
11)	Ongica Bee keepers Association (Lira)

3.7.3 Private Companies

There are various private companies that perform various functions such as bulking processing, trainings, sale of equipments, processing among others. A brief description of a few of them is provided below:

a) Connoisseur Honeys Limited-Bushenyi district: Produce, bulk, process and market honey and honey products locally and internationally

b) Centenary Bank: Trains farmers in loan management and loan recovery

c) Bee Natural Uganda: Purchase all hive products from farmers and sell it locally and internationally

d) Uganda Beekeepers Refinery: Bulks, processes and markets honey

e) Aryodi Bee Farm: Input supply, marketing and training of farmers

f) East African Beekeepers Limited: Input supply especially equipment.

3.8 S.W.O.T Analysis for the Honey Value Chain

Table 2.4: S.W.O.T Analysis for Honey Value Chain

Strengths			
• Knowledge on how to use locally readily available materials to construct bee hives	• Indigenous knowledge on honey production by farmers	• Existing strong linkages between processors and producers	• Existing strong linkages between traders and middlemen and processors
Opportunities			
• Availability of government support and presence of international organizations • Increasing use of beekeeping for the conservation of protected areas • High demand of traditional hives	• Increasing population (urban and rural) posing a potential demand • Availability of affordable labour • Current high demand of honey both locally and in the export market • Low opportunity cost of producing honey	• High demand for processed and well packed honey • Availability of modern tested equipment and technologies especially bee hives and harvesting technologies • Few processors in the value chain leaving opening for more investment	• High demand of honey both locally and in the export market • Low cost of commercial agricultural and industrial land • Availability of government support and presence of international organizations
Inputs suppliers	Producers	Processors	Traders (retailers & wholesalers
Weaknesses			
• Inadequate access to finance • Dealing with small and scattered beekeepers which is costly and time consuming	• Limited access to modern production skills • Limited use of protective and improved farm equipments	• Rudimentary processing technologies and skills resulting to poor quality honey • Poor packaging materials • High cost of collection due to scattered small scale producers	• Inadequate access to capital • Poor packaging materials and labels • Limited knowledge on measurement • Limited access to market information • High cost of collection due to scattered small scale producers
Threats			
• Frequent long dry seasons which cause bees to abscond the hives • Competition for resources e.g. cutting down of trees especially for charcoal which should be the source of nectar • Unreliable and inadequate information on available technologies, demand size and production	• Frequent long dry seasons which cause bees to abscond the hives • Use of chemical on crops killing the bees • Competition for resources e.g. cutting down of trees especially for charcoal which should be the source of nectar • Unreliable and inadequate information on available technologies and business linkages	• Unreliable and inadequate information on available technologies and business linkages	• Unreliable and inadequate information on available technologies and business linkages

3.8.1 Input suppliers

Inadequate access to financial products and services as evident from the mapping of the support services and the high cost of operation due to the scattered nature of the producers are the main weaknesses of the input provider majorly hives. The implication is that, the input suppliers are not in a position to deal with deforestation, drought and unavailability of reliable information on demand for bee hives which require financial investment hence threatening their business.

Despite several challenges, the government has put in place several strategies to support the sectors including: the strategy to increase the rate of colonization and number of farmer preferred bee hives and the Uganda Apiculture Export Strategy. Also, currently there is an increasing trend in bee keeping with an aim to utilize the existing forest resources and hence the demand for bee hives is on the increase posing an opportunity for the input suppliers. To harness these opportunities, the suppliers of bee hives should utilize their knowledge on how to use local readily available materials to make quality traditional bee hives that are mostly demanded by the producers.

3.8.2 Producers

Producers have limited access to investible financial products as well as inadequate access to improved equipment. In addition, several threats face this stage of the value chain including prolonged drought associated with climate change causing the bees to abscond in look for water and nectar, competition for resources with deforestation threatening the life bees and unavailability of reliable information on the quality of honey is required by the different consumers.

On the other hand, honey producers have gained valuable knowledge over time that they can take advantage of to supply the already high and increasing demand for honey.

3.8.3 Processors

Honey processing in Uganda is still at very basic level with most producers being the processors. They use rudimentary technologies resulting to low quality honey and low competitiveness of the sector especially in the export market. Poor packaging even worsens the already poor situation of honey processing. Unavailability of reliable information on the market dynamics as well as on existing technologies could be a cause of the above weakness and it is a main threat to the sector.

One of the strengths of the producers is that, they strong linkages with their suppliers with some producers doubling as processors showing some level of integration. This strength can useful in meeting the market demand which is currently high than the supply. In addition, there are few processors in the chain and these implies that, if the challenges facing the value chain are addressed, it could open more opportunities for investment for the chain is not yet crowded.

3.8.4 Traders

Traders in the honey value chain include: wholesalers and retailers. Due to their small scale of operation, they have inadequate access to financial products resulting to minimum use of quality packaging material and limited access to market information. Unavailability of reliable market information threatens honey trade in Uganda. However, the traders have strong linkages with the middlemen and processors of honey. Utilizing the low cost of commercial land, government support, the traders can meet the existing demand of quality honey in the country and beyond.

4.0 CONCLUSIONS

Honey production and productivity is below the optimal yield in Uganda for the three types of bee hives commonly used. This has resulted to a supply gap of over 2000 MT/Yr. Low rate of colonization (66%) is one of the main causes of such low productivity against an ideal of 80%. Of the three types of hives commonly used in Uganda, KTB has the least productivity gap of 54%. This is associated with the many interventions targeting and promoting the KTB. This implies that, any interventions should build on the capacity that has already been built in the adoption and use of KTB. However, traditional hives are the most common being utilized by 44% of all the bee keepers in Uganda. If Uganda is to meet the demand of honey, improvement of the traditional hives should be considered as an important point of entry. The intervention should aim to improve the hives and improve their productivity, instead of introducing new ones, whose adoption will below.

Processing is still minimal and majorly by the producers themselves who lack skills and technologies to handle honey hygienically. This implies that, consumers cannot be assured of quality honey. This also presents a blow to the processors who find it difficult to meet international standards and volumes for export. The other implication is that, the production stage is important in enhancing the performance of the honey value chain especially quality of processed honey in the market.

Honey marketing in Uganda is informal. There is a lot of cross border trade especially in towns near the borders due their proximity to the neighboring countries.

Honey from Uganda is of good quality interms of taste, viscosity and flavor. However due to the rudimentary level of processing and packaging, urban consumers still prefer imported honey due to its longer shelf life ans user friendly packaging.

The local and regional market for honey is still more attractive than export markets. Honey prices in the local market are better than those in the export market and the quality regulations less stringent.

Processors are more integrated than other actors in the core processes. The mapping out of core processes brought out an interesting level of integration at the processing stage. Some processors are collecting and bulking, transporting, processing and exporting honey. Such processors were found to have contracted farmers to supply them. Lessons from such models can be used to enhance the performance of the chain hence this could be an important stage of intervening in enhancing the performance of the chain.

The honey enterprise is highly commercialized in Uganda with up-to 90% of the produced honey being sold with 75% of the honey being primary processed by the producers. Coupled with the high local demand, the implication of this finding is that, honey is a potential enterprise towards achieving trade based food security in Uganda especially to the honey producers. The production stage is also a potential entry point to enhancing the performance of the honey value chain because the producers handle a significant proportion of the honey they produce.

Both men and women are well distributed along the value chain with over 50% of the beekeeping households sharing duties at all levels. The implication is that, the value chain is inclusive and any intervention targeting the chain should aim to reach both genders. Women however dominate the marketing function

Established linkages exist between local artisans and producers as well as at trading stages. Local artisans make the traditional bee hives which is the most common type used in Uganda. The other strong linkages exist between producers and traders due to the integration in the chain. Producers are packaging honey and selling it directly to the traders.

However, there exists weak linkages between the producers and the processors and exporters as a result, low volumes are produced which cannot sustain export and processing. Honey trade is dominated by informal spot markets with 64% of the actors operating without contracts.

There is a big disconnect between service availability and access. Several financial products and services exist in the financial sector but the core actors do not access them. The actors access limited training in financial skills mainly from MFIs and SACCOs. Irrespective of the access to extension services from the public sector, the financial sector has not complemented the capacity built with investible financial products. There is need to link farmers whose capacity has been built, to financial service providers.

5.0 RECOMMENDATIONS

5.1 Matrix of Proposed Interventions

In this section the results from the SWOT analysis are used to identify potential interventions that the DIMAT Project can initiate on its own or can contribute to if such interventions have already been initiated by other development actors.

Table 5.1: Matrix of Proposed Interventions

Factors INTERNAL to the Value Chain – (from Input Suppliers to Consumers) / Factors EXTERNAL to the Value Chain	**STRENGTHS** • The sector is prioritized by government and is already supported through its national apiculture policy and the national apiculture export strategy. • There is a considerable level of value chain integration, with a good number of producers integrated into processors. This makes it easy to upgrade the chain. • The chain actors are willing to strengthen their existing linkages and engage in new formal agreements to boost supply both in quality and quantity. • Availability of tested and relatively affordable technologies (improved bee hives), and practices. • Already significant number of large off-takers/ players in the sub-sector that can facilitate efficient access to markets	**WEAKNESSES** • enforcement of standard rules, lack of full-proof quality assurance systems, and low trust. • Low quality of vertical integration. • Weak value chain institutions; and their numbers are low to cause influence. • Low productivity & quality and poor packaging • Low business, entrepreneurial and apiary management skills of producers. • Farmers unwillingness to service loans; especially guaranteed loans • Beekeepers engagement in side-selling • Inadequate market and baseline information which can be used for planning
OPPORTUNITIES • Expanding national, regional, and international markets for honey and its by-products. • Potential for financing looking for investment from FDI, Equity investors, international/ regional/development banks. • Availability of land and vegetation • Possibility of local artisans making improved hives and protective gear. • Existence of two companies dealing with packaging materials (Rwenzori and Afroplast) • Existence of development organisations and other service providers supporting the sector	**Intervention Plan – Short Term (picking the low-hanging ripe fruits)** 1. Expand the utilization of available, tested technologies, products and practices to exploit markets and by-products 2. Attracting investors into the sector – especially in production of suitable and affordable packaging materials and processing equipment 3. Facilitate access of producers to affordable financing to boost production/productivity 4. Develop structured trade in the honey sector through strengthening the links between producers, processors, and marketing brands	**Intervention Plan – Short - Medium Term (picking the low-hanging but not yet ripe fruits)** 1. Development of market information structures for efficient delivery of information. 2. Strengthen value chains institutions in good governance, development of improved technologies locally and quality enforcement & adherence
THREATS • Reduced availability of trees due to continued deforestation, especially in the northern areas where land clearing for cultivation is on the increase. • Cheap imports are making the locally produced honey uncompetitive in the market. • There is adulterated and counterfeit honey in the Ugandan market. • There is a lot of bureaucracy at UNBS for certification which is a disincentive for adherence to the set standards • Non-approval and non-implementation of apiculture policies.	**Intervention Plan –Medium Term (picking fruits high up the tree)** 1. Build and strengthen evidence-based multi-actor platform for advocacy e.g. (for optimal infrastructure investments, more government support for speedy certification by UNBS and enforcement of standards among others)	**Intervention Plan –LONG Term (grow new fruit tree)** 1. Environmental conservation initiatives in collaboration with National Forestry Authority and other key stakeholders to ensure sustainable forage for the apiculture sector

5.2 Preliminary Outlines of Potential Interventions

5.2.1 Proposed Short Term Interventions (low-hanging ripe fruits)

The interventions proposed for the short-term would be designed to enhance and to put into use the identified strengths in the honey value chain in Uganda and fully utilize opportunities available to the sub-sector (Table 4.1). The honey market in Uganda is clear on what it demands and hence any efforts should be to meet this demand interms of quantity and quality.

The first intervention should concentrate on strengthening the existing linkages between producers, processors and traders as well building new sustainable links. The approach will focus on working with the government as well as development partners who are already building the capacity of the producers.

Building the capacity of the producers through group formation will make them credit worth for they guarantee each other and this will pave way to the second intervention: facilitating the access to investible finance by the producers. Limited access to finance makes it difficult for producers to access and utilize modern, efficient technologies in honey production, processing and packaging. The assumption is, once the capacity of the producers is built and they can access finance, then a change reaction will take place. Driven by the demand for quality honey, they will access modern technologies to not only increase productivity, but also process honey to the expected standards.

This way, the producers will be able to supply quality honey to traders and consumer who in turn will meet the demand. As a result, the whole value chain will be driven by a similar vision of supplying quality honey to the market hence; chances are high that investors will be interested.

5.2.2 Proposed Short - Medium Term Interventions

The interventions proposed for the short to medium term would be designed to remove the identified weaknesses in the honey value chain in Uganda.

Market symmetry and competition can only be created by ensuring accurate information when needed. The existing market information systems have integrated honey into their group of target clients. The main bottle neck is that currently, trade in honey is largely informal hence difficult for the beneficiaries of such information to be responsible for the costs involved. Integrating the honey value chain to existing market information systems will be important. The approach will entail producer groups getting linked to different MIS platforms through subscription after which they can benefit from the MI programs.

The second phase of this intervention will be to built the capacity of the MIS providers in a participative way on what the target audience of their information with respect to honey demand. This will be part of sustainability as well as an exit strategy by ensuring that the actors in the honey value chain receive the information they demand and hence pay for the services.

5.2.3 Proposed Medium Term Interventions

Medium term interventions are meant to enhance and to put into use the identified strengths in the honey value chain in Uganda – so as to reduce and/or mitigate the effect of the threats to the honey sub-sector.

Once the value chain is structured (actors are operating formal businesses and linkages are self-drive) there will be need for advocacy through a multi actor platform as the third intervention. The approach will borrow from other platforms especially the one for coffee with aim whereby, the actors at different levels are represented. The representatives would then air the concerns of the actors to the relevant authorities. The issues of priority will include: improvement in the legalization processes of business, less charges on SMEs and linkage to international markets by the ministry of trade.

5.2.4 Proposed Long Term Intervention

Long term proposed interventions as with the medium term plans are envisioned tackle the identified weaknesses and alleviate threats that face the honey value chain.

In the long term, the project should concentrate changing the perception of all the stakeholders to see bee keeping as one ways of earning descent income from agriculture. For the enterprise to thrive, environmental resources conservation has to be given top priority including reforestation, conserving water resources, minimizing pollution. This will call for a strategy to collaborate with National Environment Management Authority, National Forestry Authority among other government departments as well as development agencies e.g. United Nations Environmental Program (UNEP).

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APPENDIX 1:

DETAILED LIST OF CONSTRAINTS AND OPPORTUNITIES AS IDENTIFIED BY STAKEHOLDERS INTERVIEWED

Opportunities

Inputs Suppliers	Producers	Processors	Traders
Increasing use of beekeeping for the conservation of protected areas	High demand of honey both locally and in the export market.	Modern equipment and technologies especially bee hives and harvesting technologies	High demand of honey both locally and in the export market.
Conducive agro-climatic conditions which favor bee breeding forage	Availability of government support and presence of international organization		Low cost of commercial agricultural and industrial land
Availability of government support and presence of international organization	Increasing population (urban and rural)	Product diversification and value addition	Availability of government support and presence of international organization
Indigenous knowledge by farmers	Indigenous knowledge by farmers		Product diversification and value addition
Low production costs	Dealing with small and scattered beekeepers which is costly and time consuming		
	Honey is self-preserving due to its physio-chemical characteristics and therefore easy to handle with a long shelf life	Honey is self-preserving due to its physio-chemical characteristics and therefore easy to handle	

Constraints

Inputs Suppliers	Producers	Processors	Traders
Inadequate finance	Frequent long dry seasons which force bees to migrate	Poor quality honey, High prices of honey, Side selling of honey	Limited capital, High non-tariff barriers
Cutting down of trees especially for charcoal	Limited protective harvesting equipments	Limited packaging materials, Limited processing equipments, Inadequate supply of quality honey	Limited knowledge on measurement unit
	Land scarcity, Inadequate storage facilities	Poor storage	Poor packaging materials and labels
	Producer's exploitation by middlemen	Dealing with individual and scattered beekeepers which is costly and time consuming	Dealing with individual and scattered beekeepers which is costly and time consuming
	Inappropriate beekeeping skills and irrelevant to Uganda situation. Most training is based on European or North American Technology Use of pesticides that harm bees	Inadequate baseline information necessary for investment planning	No legislation in place to support and protect the industry
	Limited knowledge on measurement unit	Low supply of honey	

APPENDIX 2:

DETAILED LIST OF RECOMMENDATIONS AND SUGGESTED INTERVENTIONS MADE BY STAKEHOLDERS

Recommendations

The major recommendations suggested by producers to address the mentioned challenges included;

1. Supporting processors and packers to make proper packaging material and labels
2. Increased production of honey
3. Buyer awareness on quality aspects
4. Producer sensitization on quality
5. Organizing traders into groups to increase their voice
6. Timely supply of products
7. Establishment of storage facilities. Storage of honey is a challenge and hence losses are always incurred during storage. Thirteen percent of the processors lose up to 10% of the raw honey as well as processed honey which is the highest reported (DIMAT data, 2012)
8. The elites need to be encouraged to practice apiculture. They will be able to keep and maintain records which can be used by researchers and other stakeholders
9. Some stakeholders also recommended upgrading of the traditional hives to produce more honey while improving the extension services in the honey sub-sector
10. The banks' lending terms are not cast on stone and can be negotiated on a case to case basis
11. Empowerment of local artisans to make improved hives and protective gear

APPENDIX 3:

Willingness to enter into contractual arrangement (Farmer groups)

Farmer Group	Location (District)
Abwocolil disabled bee keepers association	Lira
Akilo agricultural farm	Lira
Akwanglet farmer group	Soroti
Amen demonstration farm (AMDEFA)	Soroti
Buhugu integrated development initiative	Sironko
Dakabela rural women development association	Soroti
Happy farmers group	Arua
Kabara bee farmers group	Bushenyi
Kelendere	Arua
Kitati bee keepers association	Sironko
Merber	Nebbi
Nkanga youth farmers group	Bushenyi
Nyabubarebee keepers group	Bushenyi
Odukun development organisation	Soroti
Ojipaku farmers group	Arua
Olea dry land resource farmers	Arua
Omuron alakara group	Soroti
Ongica bee keepers association	Lira
Riverside valley bee keeping	Sironko
Rwakati tukole group and Taf assured mix enterprises.	Bushenyi

APPENDIX 4:

CASE STUDIES OF OFF-TAKERS' WILLINGNESS TO FORMALLY ENGAGE THEIR SUPPLIERS

4.1 Bee Natural Uganda (BNU) Ltd, a honey processor, and producer groups in Arua – West Nile Region

Background
This is a project of Kilimo Trust: "Improving the value chain of honey production and marketing in the districts of Arua, Nebbi and Yumbe in West Nile region" since July, 2009.

Summary of partner roles in the current project:

NO.	Partner	Role
a	KILIMO TRUST	• Financing of project activities ($16,000 to SNV and $34000 Centenary bank for value chain financing – Guarantee fund
b	SNV Uganda	• Lead implementer of the project • Provided capacity development of bee keepers (formation and strengthening producer groups and training in production technologies)
c	Centenary Bank	• Training bee keepers in loan management • Assessment of farmers for eligibility for credit • Provide loans to farmers in form of equipment – hives and protective gear • Recover the loans from farmers
d	Bee Natural Uganda	• Purchase all bee hive products • Collect honey from honey collecting centers • Participate in assessment of bee keepers for the loans • Act as an LCB for SNV (training of farmers in group management and production technologies)

The above arrangement has since changed with effect from August, 2012, such that KT will now take on direct implementation of the project thereby combining its roles with those of SNV Uganda.

The project was conceptualized based on the findings of Prof. Helmut Horn estimating a potential honey quantity for Uganda at 500,000MT, of which currently 2,600MT is realizable annually. The research findings of Prof. Horn indicated that 80% of honey in Uganda is produced in Northern Uganda and West Nile region. This enabled the Bee Natural Uganda to locate their modern processing plant in the region. The concept for the current project, "improving the value chain of honey production and marketing in the districts of Arua, Nebbi and Yumbe in West Nile region" relied on this to a great extent.

Demand/supply gap
Currently, BNU is able to procure up to 87 MT (50 MT and 37 MT of combed and liquid/semi-processed honey respectively) from the current producers. However, BNU has a target of 150 MT (80 MT and 70 MT of combed and liquid honey respectively). Furthermore, BNU's installed factory capacity is 600MT/year but is currently operating at about a paltry capacity 100MT/year.

Current existing linkages and their nature
BNU has contractual supply arrangements with 150 producers and 3 middlemen. The contract duration with the producers was 3 years (the project duration) which just ended last month but KT is carrying it on for some more 3 years as a direct implementer. The contracts with the middlemen are 'open' with no definite duration and are paid on commission bases (100 UGX) per Kg delivered at the prevailing market prices. Middlemen supply semi-processed/ liquid honey while producers supply both combed and liquid forms.

BNU also buys from traders but maintains no contractual arrangements with them due to their tendency to ask for 'unrealistically' high commissions.

Constraints in existing linkages

- Producers mobilization
- Low honey productivity
- Side selling to avoid loans repayment from Centenary bank
- High loans' default rates of about 90%.

Willingness to enter into formal linkages including support from off-taker

BNU is willing to enter into additional formal linkages with producer groups and middlemen. The off-taker is ready to offer extension services and technical back-stopping through its field technical team.

Applicable Terms and conditions

- The producers must be ready to supply BNU exclusively
- BNU makes arrangement to supply inputs such as hives and protective gear. This can be through introduction to financial institutions or inputs suppliers
- Prices to be pegged on the prevailing market prices
- The middlemen to be paid a commission per Kg delivered

APPENDIX 5:

PRICES OF EQUIPMENT

Item Description	Units	Unit Prices UGX
Protective Gear		
Complete Bee Suit (veil & Overall)	1	155,000
Bee gloves (plastic)	1	25,000
Plastic white Gumboots	1	35,000
Smoker	1	35,000
Hive tool	1	15,000
Bee Brush	1	20,000
Storage & Harvesting Containers		
Storage container 70kgs	1	38,500
Air tight buckets suitable for Honey harvesting & storage	1	25,000
Bee Hives		
KTB Hive	1	85,000
Langstroth Hive	1	155,000
Uganda Top Bar Hive	1	45,000
Catcher Boxes		
KTB catcher box	1	35,000
Langstroth catcher box (Nuc box)	1	50,000
Processing Equipment - Honey Settling Tanks		
Food grade stainless steel Settling Tank 50kgs & strainer	1	1,500,000,
Food grade stainless steel Settling Tank 100kgs & strainer	1	2,500,000
Food grade stainless steel Settling tank 200kgs & strainer	1	2,990,000
Food grade stainless steel Settling tank 400kgs & strainer	1	4,605,000
Food grade stainless steel Settling tank 800kgs & strainer	1	8,512,000
Solar wax Extractors		
Solar wax extractor	1	2,550,000
Honey Jars		
Plastic Honey Jars 500gms with lids	1	520

Plastic Honey Jars 250gms with lids	1	395
Glass jars (500g)	1	1500
Squeezable bottles (350g)	1	400
Honey Centrifuge Extractors		
Honey Centrifuge Extractors stainless steel with stands (3 Frame)	1	1,800,000
Honey Centrifuge Extractors stainless steel with stands (4 Frame)	1	2,705,000
Honey Centrifuge Extractors stainless steel with stands (9 Frame)	1	4,620,000
Honey Centrifuge Extractors stainless steel with stands (15 Frame)	1	6,750,000
Honey Centrifuge Extractors stainless steel with stands (20 Frame)	1	7,105,000
Honey Press		
Honey Press	1	2,505,000
Honey Refractometer		
Refractometer (measuring moisture content) Atago model	1	1,000,000
Refractometer (measuring moisture content) UK model	1	1,050,000
Queen Rearing Kit		
Queen Rearing kit	100pcs	850,000
Strainers		
Nylon cloth sieves	1meter	25,000
Double stainless steel filter	1	569,000
Conical filter and stand	1	582,000
Continuous strainer capacity 150kgs	1	9,270,000
Decapping Tray	1	740,000

Source: Bee House Products, 2012

APPENDIX 6:
SUBMISSIONS FROM THE VALIDATION WORKSHOP

6.1 Group 1: Financing

What finances are available in the Honey Sector?
The Finances are normally obtained from Commercial banks, Credit Institutions, MDIs, MFIs, SACCOS

Aspect	Available Financing	Challenges/Risks	Opportunities	Interventions
Input Suppliers	• Own capital • Working capital loans • Contract financing	• Limited capital • High interest rates • No formal collateral / security • Lack of financial information	• Growing financial sector (products) • Guarantee funds and subsidies	• Government incentives • Apiculture policy should be implemented • Development of specific apiculture financial products
Producers	• Consumption loan • Working capital loan • Agricultural loans • Warehousing Financing • Grants • Tied AID	• Ease of access • Lack of assured market • Poor loan repayment • Poor loan appraisal		• Effective financial literacy
Processers	• Leasing facility	• Limited suppliers approved by bank		

Transporters	• Leasing • Working Capital			
Traders/ Wholesalers	• Warehousing Financing • Letters of Credit • Overdraft facility	• No formal government support (Lack of government subsidy)		

6.2 Group Two: Bee products

Available bee products, challenges, opportunities and interventions

Available Bee Products	Challenges	Opportunities	Interventions
Honey	• Low production • Low quality • Inadequate equipments for producers, processors and marketers • Inadequate technical support • Subsistence production (consumption at local level) • Lack of capacity to manage the enterprise	• High demand for honey for both consumption, cosmetics and medicinal • Willingness of development partners to support the sector • No taxes of equipments • High employment potential • Low management costs	• Increase productivity by through material and software support • Timely provision of information • Deliberate mobilization of members to participate in the sector • More lobbying of development partners • Engaging NFA • Provision of subsidized equipments
Bee Wax	• Lack of capacity to harvest wax • Lack of equipment/skills • Lack of market information	• Ready market for wax and its products • Availability of local skills	• Skills training in extraction and products • Marketing of the products • Provision of equipments
Propolis	• Lack of knowledge of the product • Lack of market information • Lack of skills to produce the product • Lack of the required ingredients/equipments	• High demand • Ready market • High price	• Equipments • Ingredients • Information • Skills training
Royal Jelly	• Lack of skills to extract • Lack of knowledge of the product • Lack of equipments for extraction and storage • Lack of local market	• High price • High demand	• Skills training • Equipments • information
Bee Venom	• Difficulty in extracting • Ignorance of the product • Lack of technology to extract	• Available market/ demand • High price	• Skills training • Equipments
Honey Wine	• Lack of skills • Lack of equipments • Poor packing and branding • Low quality	• High demand • High price • Employment	• Skills training • Equipments • Information

6.3 Group Three: Production

1	Available technologies	Challenges	Opportunities	Interventions
a	• Bee hives , KTB, langstroth, Local	• Pests management • Theft • Fires • Deforestation • Lack of information and data	• High demand • Availability of development partners • Access to EU market	• Specific targeted interventions for increasing production such as provision of hives, training • Data availability • Reduction in cost of quality certification by UNBS • Improvement of environmental issues
b	• Harvesting equipments, Bee Suits, Smokers, Knives, Touch, Buckets, Brush, Centrifuge, decaping kits	• Lack of harvesting equipments • Expensive harvesting equipments • Weather changes • Storage facilities • Cost and quality of hives • Farm gate prices • Siting	• High potential for export • Natural forests	
c	• Processing equipment, Weighting, Honey press ,Air tight buckets , honey crusher, Sieves ,settling /warming tanks, honey packing machines, queen rearing equipments, catcher boxes • Quality • Re -fractometer, color separation,	• Quality honey • Quantity of honey • Lack of processing equipments • Lack of wax extractor ,wax mould machines, candles moulds, • Packaging jars ,boxes,		• Storage and quality control training • Training on maintenance and servicing • Health and safety
NB: design commercially viable interventions				

6.4 Group Four: Markets

Available markets	Challenges
National. Rural/Village • Direct consumers • local brewers • Herbalists Urban markets • Low end: Kiosks, hawkers, herbalists • High end: Supermarkets, Groceries, cottage industries, saloons, hotels, hospitals International • Cross boarder markets • both informal and formal trade • Specialised markets • Formal trade	i. Quality Assurance ii. insufficient volumes iii. Adulteration iv. Packaging and labelling v. Losses through theft vi. Market information vii. policy and regulation viii. imported cheap honey ix. Lack standardisation x. Lack of baseline information which can be used for planning purposes xi. Lack of collective marketing systems xii. Access to appropriate financial facilities xiii. Lack of business skills xiv. Lack linkages among the stakeholders xv. Technical barriers xvi. Lack of negotiation and contractual skills
Opportunities	**Proposed Interventions**
• High demand due to change in tastes and preferences, and the use (nutritional qualities) • Regional markets • Available of packaging materials • Nature of honey – self preservative (long shelf life)	• Standardisation • Market access and linkage programs/projects • olicies and regulation • Harmonisation of market information • Government should strengthen the policies • Advocacy, lobbying, media • Nutritional /health campaigns • Capacity needs assessments among the value chain players • Private sector involvement • National platform for honey value chain actors • Marketing strategy by all the VC players

6.5: Group 5: Policy and Advocacy

No.	Item	Proposed intervention / Response
1	Available policies	Available policy documents
		Draft apiculture policy 2009
		Statutory instructions No. 72 & 73
		Honey standards US 18
		Agriculture sector dev't strategy & investment plan
		Standard operating procedures
		Code of practice for apiary management & processing
		National forestry policy 2001
		National export strategy (NES)
		National apiculture multi stakeholder platform
		National nutritional policy
2	Challenges	Non-enforcement of national honey standards
		Information gap & Dissemination of such relevant policy information
		Limited budget allocation
		Limited statistical data
		Lack of awareness by Parliamentary committee on agriculture
		Lack of apiculture policy analysts & writers
		Wrong phobia about bees
		Failure to mainstream apiculture with the ministry of agriculture
		Deforestation for firewood, timber and charcoal
		Lack of a fully-fledged apiculture fund
		Use of pesticides & herbicides for crops & livestock
		Uncoordinated efforts by development partners
		Limited policy research
3	Opportunities	Huger local, regional & international markets
		Uganda on the list of countries that export to the EU
		Presence of TUNADO as the coordinating / apex body
		Presence of gov't division on apiculture within MAIIF
		Zero rated duty on apiculture
		Honey is Multipurpose product
		Many local & international NGOs, Donors interested in the sector
4	Interventions	Honey week for awareness creation
		Apiculture multi-stakeholder platform
		Increased policy analysis & Advocacy
		Regular & concerted media & publicity
		Identifying a committee to closely work with in parliament
		Use of the PSFU platform to influence policy related issues
		Use of community based radios & TVS for publicity.
		Development of a communications & media committee
		Need to engage gov't for an apiculture fund
		Need to work with TUNADO & MAIIF by dev't partners
		Development of a one stop center on Apiculture
		Increased research on Apiculture
		Implementation & enforcement of available policy related instruments.

High demand due to change in tastes and preferences, and the use (nutritional qualities)

Regional markets Available of packaging materials Nature of honey – self preservative (long shelf life)

With the exception of the honey associations, there are hardly any technical institutions supporting honey research and development in the country

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