

# **BASELINE STUDIES ON HONEY SUB SECTOR IN ASHANTI, BRONG AHAFO AND 3 NORTHERN REGIONS**



**By**

**Vincent Subbey**  
**(Director, TRAX Ghana)**  
**P O Box 230, Bolgatanga, UER**  
**Ghana (West Africa)**  
**Tel: 0245982702 Fax: 072 - 22501**  
**Email: [vincentsubbey@hotmail.com](mailto:vincentsubbey@hotmail.com)**

**April, 2009**

## **Acknowledgement**

On behalf of TRAX Program Support (TRAX Ghana), I wish to express my gratitude to The Netherlands Development Organisation (SNV), Tamale office for the opportunity to undertake this assignment. I am extremely thankful to the SNV Portfolio Coordinator in Tamale, Maxwell Agbenorhevi for providing me with the required information and giving the necessary inputs to ensure the successful completion of the assignment.

My special gratitude goes to all the research assistants and supervisors in the study regions who despite the difficulties encountered in the field in locating honey producers and associations/groups, managed to collect all the needed information.

I wish to sincerely thank TRAX Ghana Board Chairman, Fred Abakah for training the data entry clerks and offering me his unflinching cooperation and support during the processing of field data.

TRAX Ghana enjoyed working with you all and we look forward to another opportunity in the future.

Thank you all.

## TABLE OF CONTENTS

Item	Page
Acknowledgement	i
Table of Contents	ii
List of Tables	iv
List of Figures	iv
Abbreviations	vi
<b>EXECUTIVE SUMMARY</b>	vii
<b>CHAPTER ONE: INTRODUCTION</b>	1
1.1 Introduction	1
1.2 Purpose of Survey	2
1.3 Specific Objectives	2
1.4 Outputs of Survey	3
1.5 Scope of Survey	3
1.6 Literature Review	3
1.6.1 World honey production and Trade	3
1.6.2 Africa / Regional Honey Production	5
1.6.2.1 Ghana Honey Sector	6
1.7 Limitations and Constraints	7
1.8 Structure of Report	7
<b>CHAPTER TWO: METHODOLOGY AND APPROACH</b>	8
2.1 Methodology	8
2.2 Sample	8
2.2.1 Sampling Method	8
2.2.2 Sampling Size	8
2.3 Data Collection Tools	9
2.3.1 Questionnaires	9
2.3.2 Focus Group Discussions	9
2.3.3 Key Informant Interviews	9
2.4 Data Analysis	9
2.5 Study Area Context	10

2.5.1	Physical and Population Characteristics	10
2.5.2	Climate	11
2.5.3	Vegetation	11
<b>CHAPTER THREE: SURVEY RESULTS AND ANALYSIS</b>		<b>13</b>
3.1	Information on Respondents	13
3.1.1	Marital Status	13
3.1.2	Age range of Respondents	14
3.1.3	Educational Level	15
3.2	Suitable Producing Areas	15
3.2.1	Production Technology	15
3.2.1.1	Number of Hives Sited	17
3.2.2	Productivity of Hives	17
3.2.3	Management of Hives	18
3.3	Levels of Production	18
3.4	Honey Extraction	19
3.5	Price Trends	20
3.6	Production Income	21
3.7	Organisation of Production	22
3.8	Profitability of Honey and Wax Production	22
3.9	Primary Processing Technology	24
3.9.1	Secondary Processing	25
3.9.2	Other Processed Products	25
3.10	Market for Honey Products	26
3.11	Distribution Chain	27
3.11.1	Wholesalers	27
3.11.2	Retailers	28
3.12	Quality Standards and Packaging	28
3.13	Honey Compared to Other rural livelihoods	30
3.14	Institutional support and Regulatory environment	32
3.15	Honey Industry Prospects	32
<b>CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS</b>		<b>33</b>

<b>LIST OF TABLES</b>		5
1	World Honey Production by Continents in thousand tonnes	5
2	Demographic Statistics of Study Area	10
3	Respondents by Gender	13
4	Education level	15
5	No. of Beehives sited	17
6	No. of Beehives colonised	17
7	Yield per hive	17
8	Total honey production (gallons) for study regions	19
9	Total estimated honey production (gallons) for four regions	19
10	Average price / gallon – Farm gate	20
11	Estimated income	21
12	Associations / Group level	22
13	Profitability of honey and wax production	23
14	Processed products	25
15	Honey distribution to Market	27
16	Packaging – container for final products	29
17	Quality standards and packaging	29
18	Livelihoods income per annum compared	31
19	Roles and organisations involved in honey support	32
20	Honey industry prospects	33
<b>LIST OF FIGURES</b>		10
1	Study Area	10
2	Marital Status	14
3	Age range of respondents	14
4	Production Technology	16
5 – 8	Rate of visit to apiary	18
9	Extraction Technology	20
10	Farm gate price / gallon	21
11	Estimated income (GH ¢) per honey production	21
12 – 15	Income source	30

REFERENCES	37
------------	----

APPENDICES	38
------------	----

1	Terms of Reference	38
2	Survey Questionnaire	40
3	Development and support Agencies	48
4	Production and Packaging equipments	51

## ABBREVIATIONS

ADRA	Adventist Development and Relief Agency
BA	Brong Ahafo
CBRDP	Community Based Rural Development Project
CEPS	Customs, Excise and Preventive Service
UER	Upper East Region
EU	European Union
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussions
GDP	Gross Domestic Product
GEPC	Ghana Export Promotion Council
GSB	Ghana Standards Board
IFAD	International Fund for Agricultural Development
JHS	Junior High School
KTB	Kenya Topbar
LDP	Literacy and Development through Partnership
MOFA	Ministry of Food and Agriculture
NBSSI	National Board for Small Scale Industries
NEPAD	New Partnership for Africa's Development
NGO	Non Governmental Organisation
NHBVCN	Northern Honey Beeswax Value Chain Network
NR	Northern Region
NSLP	National School Lunch Programme
NWFP	Non-Wood Forest Products
REP	Rural Enterprise Project
SNV	Netherlands Development Organisation
SPHC	Savannah Pure Honey Company
STB	Saltpond Topbar
TEFAP	Temporary Emergency Food Assistance Programme
UDS	University of Development Studies
UK	United Kingdom
USA	United States of America
USDA	United States Department of Agriculture
UWR	Upper West Region

## **EXECUTIVE SUMMARY**

### **Introduction**

The capacity of Ghana's agriculture to generate high incomes, engender sustainable employment and ensure food security among the rural population for sustainable poverty reduction has fallen short of its potential. The greatest challenge to the development of this sector lies in ineffective linkages among the different actors in the various commodity chains as well as weak support institutional structures. This situation has resulted in chain participants with little access to financial resources, weak organisational structures, unresolved land usage rights, inadequate infrastructure and modern technologies for post-harvest storage and processing of primary agricultural products into safe and hygienically prepared and convenient products which meet the demands of the market.

The agriculture sector's inability to modernise and grow in many areas may be attributed to inadequate policy and implementation mechanisms which take into account priority sub-sectors with high income earning potentials and holistic approaches to value chain development. The consequence of this situation is that a large part of the growing population cannot be absorbed optimally in agriculture.

A careful analysis of the difference between the South and North Ghana in terms of income status and employment points to the fact that the South has a number of high income earning commodities, support infrastructure and relatively better functioning value chains compared to the North.

The challenge confronting the North in particular is the prioritisation of agricultural commodities according to their potential for income generation, employment as well as for the achievement of food security. It is in this context that the honey subsector is considered for study.

### **Purpose of Survey**

SNV (The Netherlands Development Organisation), an international development organisation pursuing poverty reduction in Ghana; is supporting key agricultural commodity value chains it has identified as having the poverty reduction potential. One of the agricultural commodity chains chosen and supported by SNV- Ghana since 2006 is honey. To assist in the formulation of an updated strategy for the honey sector and upscale its interventions in the honey sector, SNV commissioned TRAX Ghana to undertake a new comprehensive study, focusing on entire honey value chain including production potentials, market demands and explore the dynamics influencing the development of the sector. The general objective of the survey was to collect quantitative and qualitative information which will enable informed decision to be made on issues concerning chain participants, the enabling environment and on the way forward for the subsector.

TRAX is a member of the Northern Honey Beeswax Value Chain Network, a network of organisations supporting the honey sector in the northern sector of the country and was selected based on its infrastructure, experience and ability to execute the task.

## **Main Survey Results**

### Gender of respondents

In all the survey regions, there were gender representations in the honey business. The distribution according to gender indicates that BA has the highest number of males in the honey business followed by NR, UWR and UER in decreasing trend. In the case of female involvement, UER has the highest numbers followed by NR, UWR with BA being last. Overall, 78.2% of the respondents were males, indicating the honey business is presently largely dominated by men.

### Marital Status

The survey shows that an overwhelming majority (85.4%) of people surveyed in all the survey regions were married, followed by respondents who are single 12.4%. Those divorced and widowed were 0.7% and 1.5% respectively. In terms of detail, the percentages of respondents who are married were almost equal in all the survey regions.

### Age range of Respondents:

Analysis of the survey results from all the four regions show that all age groups are involved in the honey business. On average, 33.7% of respondents fall into 31-40 age bracket, followed by the 41-50 category represented by 22.8% of the respondents. This age group is followed by the 15-30 age category with 21.3%, 51-60, 61-70 and over 70 age brackets in order of decreasing trend. The percentages of respondents in these age groups are 15.8%, 4.8% and 1.6% respectively.

### Education level

A significant percent (51.3%) of respondents in the Brong Ahafo region had formal education to the Junior/Senior High or Middle School levels, followed by those without formal education (14.3%) while majority of the respondents in the Northern (53.6%), Upper East (44.5%) and Upper West Region (42.2%) were without any formal education.

### Employment

The study revealed that the Brong Ahafo region has 31 Associations/groups in the 9 survey districts with a total number of 5,748 beekeepers (3,536 Male, 2,212 Female), the Northern region has 36 Associations/groups in the 9 survey districts with a total number of 3,572 beekeepers (2,372 Male, 1,200 Female), the Upper East region has 20 Associations/groups in the 5 survey districts with a total number of 1,488 beekeepers (916 Male, 572 Female) and the Upper West region has 13 Associations/groups in the 5 survey districts with a total number of 1,788 beekeepers (1,140 Male, 648 Female).

### Production Technology

The majority of the respondents in the Brong Ahafo (77.5%), Northern (39.1%), Upper East (79.7%) and Upper West (72.2%) regions use Kenya Topbar, followed by Saltpond Topbar in the Brong Ahafo (14.0%) and Northern (19.5%) regions with Borassus (8.1%) and claypot (9.9%) following in the Upper East and Upper West regions respectively.

### Production levels

All the regions shows increasing trend of honey production in 2007 to 2008 as well as increasing projected trend figures in honey production for 2009 and 2010. Total production of

honey (gallons) in the Brong Ahafo region, Northern, Upper East, Upper West and Ashanti regions for 2008 were 10,584; 4,262; 1,533; 1,746 and 7,423 gallons respectively.

#### Farm Gate Price Trends

There has been a general increase in the farm gate price of honey per gallon in all the regions from 2005 to 2008 for clean, quality honey produced using improved production and extraction technology from GH ¢18.00 in 2005 to GH ¢20.00 in 2006, GH ¢22.00 in 2007 and GH ¢24.00 in 2008.

#### Processing

The study revealed that there are two types of processing namely; primary and secondary. Primary processing is artisanal and secondary processing leads to the production of products such as wax, candles and certain pharmaceutical products.

#### Profitability of Honey and Wax Production

Analysis of honey and wax production indicates that generally they are profitable. A beekeeper using one hive, group shared extractors and beekeeping equipment will incur a loss of GH ¢1.00 and make profits of GH ¢9.00 and GH ¢49.00 in the second and third years of operations when three gallons of honey are produced and sold at GH ¢20.00 each. For a beekeeper with 3 hives and producing 9 gallons of honey at a selling price of GH ¢20.00 per gallon of honey, a profit of GH ¢18.50 will be made in the first year. In the second and third years, profit levels of GH ¢168.50 and GH ¢168.50 will be generated. Five hives generate 15 gallons of honey and applying same price as above, a profit of GH ¢46.50 and GH ¢288.20 will be made respectively in the first and second years. Profit level rises slightly in the third year to GH ¢288.30. The break even years are 2 years for one hive, 1 year for 3, 5 and 10 hives. The minimum number of hives that generate the best economic returns is 3 hives.

#### Market of Honey Products

The study reveals that all the honey produced is sold out by the close of the year. The market for honey may be categorized broadly into two – the domestic and export market. The domestic market can further be subdivided into rural and the Urban market. Concerning the domestic market, price trends indicate that there is no integration between them. This implies that prices in local/ rural market do not influence prices in urban market. The integration of these two markets will very much depend on the development of rural market.

#### Distribution Chain

Over 60% of honey produced in the Brong Ahafo region was sold directly to retailers and 18.6% to end consumers. Majority of respondents in the Northern (63.6%), Upper East (66.9%) and Upper West (76.7%) regions indicate that they sell their honey directly to end consumers. Retailers account for 28.8% of sales in the Northern, 19.9% in the Upper West region and in the Upper East region, 16.6% of the sales go to support organisations (input suppliers). None of the survey regions (districts) sold their honey produced to an exporter.

#### Quality Standards and Packaging

Majority of respondents in the Brong Ahafo region (75.5%) packed their honey for the market in plastic new containers, while 63.7% of respondents in the Northern, 92.5% in Upper East and 78.6% in Upper West regions packed their honey for the market in recycled plastic containers. A match of the above packaging statistics with price trends in the survey regions show a markedly strong correlation with poor packaging attracting low product prices.

### Institutional Support and Regulatory Environment

The scan of the institutional and support environment during the survey showed that a number of organisations are involved in the honey subsector. They range from policy makers to development organisations. Government development Agencies such as the CBRDP, REP are involved. These organisations are increasingly providing financial and technical support to producing groups.

### Honey compared to other rural livelihoods

A significant percent of the respondents in the Brong Ahafo (48.9%), Northern (53.8%), Upper East (77.9%) and Upper West (92.2%) regions indicate that they derive their highest income/profits from honey production, followed by crop production in the Brong Ahafo (24.4%) and Northern (33.6%) regions; whiles Upper East (20.0%) and Upper West (7.8%) regions indicated vegetable farming as their second ranked source of business income.

### **Conclusions and Recommendations**

The survey shows that the study regions are environmentally suitable for the production of honey and it's by- products. This is because honey production requires vegetative cover and certain levels of humidity. With prevalence of these fundamental conditions in all parts of the country and with the participation of all age categories, the injection of substantial resources can catalyze the honey business across the four survey regions. This can lead to the absorption of the large pool of unemployed persons as well as the aged and vulnerable in society. To achieve the objective of developing the sector, the following recommendations are made:

- Development of national honey policy and strategy
- Market Development
- Technology Development
- Sector Financing
- Enforcement of Quality and Standards

## 2.5 Study Area Context

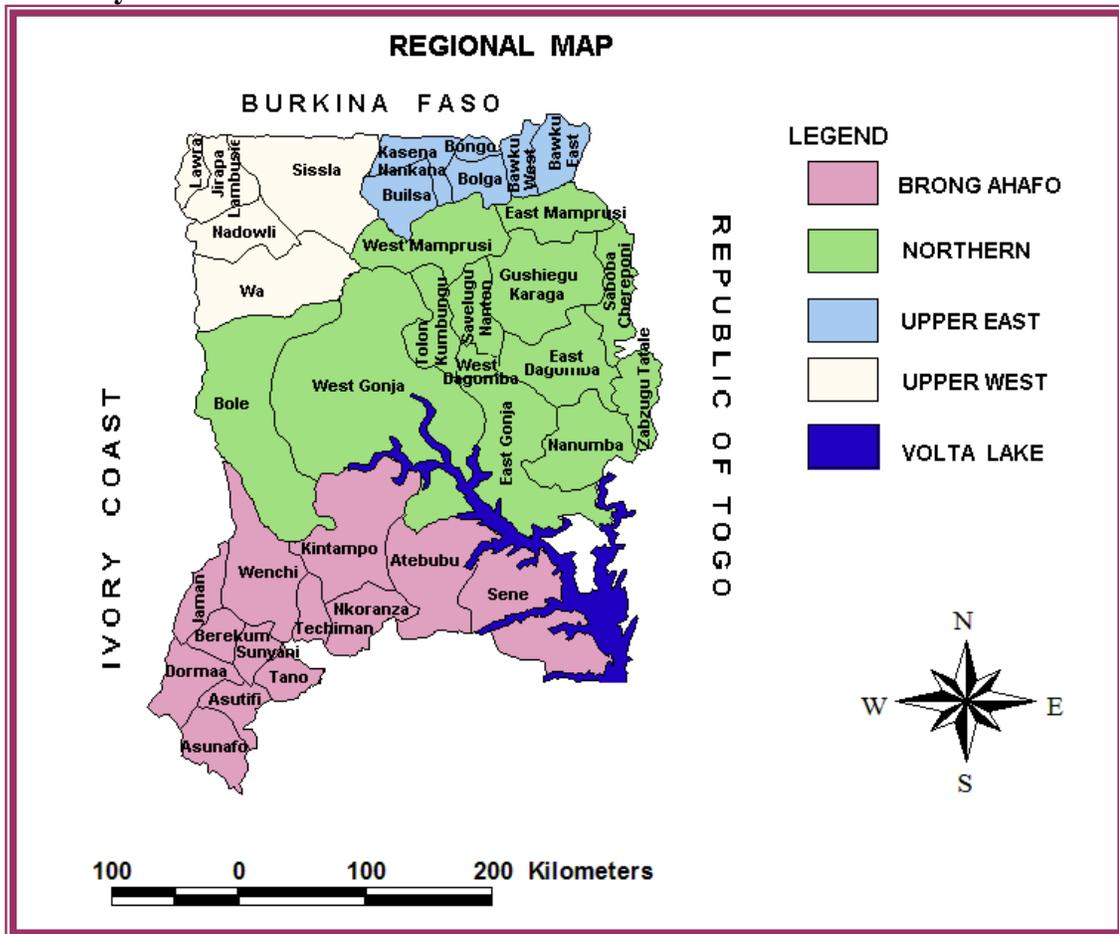


Figure 1: Study Area

Table 2: Demographic Statistics of Study Area

Region	Population	% Economically Active	Major Source of Livelihood
Brong Ahafo	1,815,408,	79.2	Agriculture & Forestry
Northern Region	1,820,806,	71.2	Agriculture
Upper East	920,089	80.0	Agriculture
Upper West	576,583	72.2	Agriculture
<b>Average</b>		<b>75.6</b>	