

***Recognizing Farmers' Knowledge in Development Initiatives: Indigenous Bee-keeping in Alaba Special Woreda, Southern Ethiopia.***

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**ABSTRACT**

Woreda agriculture and rural development (OoARD) strategic plan identify honey as one of the priority commodities of the woreda. The OoARD and development partners are exerting effort to boost honey production by introducing modern bee-keeping practice. The success of current development effort in apiculture, to improve the living standard of low income farmers, is dependent on indigenous knowledge because it is the cultural base and starting point of the practice. Thus, recognizing and documenting indigenous bee-keeping practice in the woreda is a pre-requisite to sustain honey production and strengthen existing development effort.

This paper documents history of bee-keeping the social, medicinal and economic value of honey in Southern Ethiopia, Alaba special woreda. It examines features of indigenous bee-keeping practice and its link with modern bee-keeping in the study area.

The study is based on group discussion, community ranking and key informants and household interview. Purposive sampling was used for PA selection from honey producing areas. Community data validation was undertaken at the end of the study. Findings show that knowledge of apiculture in Alaba originated from adjacent woreda and was adopted first in Besheno and surrounding area. Indigenous value of honey is reflected in the generations' lore, its medical, economic and social value. Honey is used in various social events including conflict resolution, blessing, weeding and religious ceremony. The indigenous feature of beekeeping in Alaba and its value reflects the importance of apiculture and its cultural base for economic development. Early introduction of modern apiculture in the study area has not taken in to account the role and significance of indigenous knowledge in development process. On the bases of the findings, recommendations were suggested to integrate modern and indigenous apiculture development.

**Key words:** **Bee-keeping, Indigenous Knowledge, South Ethiopia, Alaba**

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## **1. INTRODUCTION**

In a review of bee-keeping in Ethiopia Girma Deffar (1998) indicates that there is an ancient tradition for beekeeping in the country and points out that there is no nationality in Ethiopia which doesn't have beekeepers as a major economic activity. In Southern part of Ethiopia, Alaba special woreda, indigenous bee-keepers have long established practice as documented in this paper.

The word indigenous knowledge has many meanings and distinction is made between local, traditional and indigenous knowledge (FAO, 2005). The term local or indigenous knowledge (IK) is used to distinguish the knowledge developed by a given community from international knowledge systems or scientific knowledge (Kolawole, 2001). In this paper, the term indigenous or local knowledge is used synonymously. Indigenous knowledge is knowledge that people in a given community have developed over time, and continue to develop. It is based on experience, often tested over centuries of use, adopted to local culture and environment, dynamic and changing (IIRR, 1996).

As reviewed by Kolawole (2001) farmers have quite a sophisticated knowledge of agriculture based on insights from several generation and he stress the need to documented and preserve the knowledge in situ and ex situ. The basis and starting point of rural development must be the people knowledge themselves (Kolawole, 2001). Many farmer's ideas which were in the past regarded as primitive or misguided are now being seen as appropriate and sophisticated (Chambers, 1983). Thus, success of research and development effort in apiculture in Alaba woreda is dependent on being ware of indigenous farmers' knowledge, documenting their knowledge and incorporating in development process.

## **2. THE STUDY AREA**

Alaba special woreda is located 310 Km South of Addis Ababa and 85 Km SouthWest of Awassa, the capital of SNNPRS. The woreda is located 7<sup>0</sup> 17' N latitude and 38<sup>0</sup> 06' E longitude. The woreda has 73 peasant and 2 urban associations. The total population of

the woreda is 210,243 (49.7% are women). There are 6 ethnic groups and the dominant ones are Alaba and Gurage ethnic groups which comprise 81% and 10% respectively. The altitude of the woreda ranges from 1554 to 2149 m.a.s.l. Topography of the woreda is dominantly level and agro-ecologically the woreda is described as *Weyna Dega*. Mean annual rainfall ranges from 857 to 1085 mm/yr with bimodal distribution. Annual mean temperature varies from 17<sup>0</sup>c to 20<sup>0</sup>c.

### **3. OBJECTIVES**

This paper document history of bee-keeping, value of indigenous apiculture and characterize indigenous practices and to give recommendation for development partners working in apiculture in Alaba special woreda. It also examines link between the modern and indigenous bee-keeping practice in the study area.

### **4. METHODOLOGY**

Group interview was conducted in five PAs . PA selection was based on their potential for beekeeping, existence of long aged bee-keepers and accessibility. The selected PAs are Chambulla, Holegeba kuke, Gedeba, Wanja and Galato PAs. Purposive sampling was used for Household (HH) interview. HH selection was based on presence of active bee-keeper, long history of traditional beehive management and accessibility. A total of 40 HHs (8 are female headed) were interviewed. Preference ranking was also used with group discussion. Respondents in group interview were also randomly selected from various villages and interviewee age varied from 35 to 90 years. Community data validation was done with Wanja, Gedeba and Galato Apiculture group farmers.

### **5. RESULTS AND DISCUSSION**

#### **OVERVIEW OF BEEKEEPING IN ALABA SPECIAL WOREDA**

Honey is one of the priority commodities of Alaba Speical woreda (IPMS, 2005). Woreda OoARD (Office of agriculture and rural development) is exerting effort to boost honey production by introducing modern bee-keeping practice. OoARD started distributing bee-hives in 2004 and so far a total of 450 modern-beehives in addition to 3 honey extractors and several bee-hive accessories. Recent effort of the OoARD and

IPMS( Improving productivity and market success) project has lead to establishment of first apiculture cooperative in 2006, identification of innovative bee-keepers and introduction of bee-forages in the woreda. IPMS (2005) documented that there are close to 10,000 bee-colonies in Alaba special woreda and over 10,000 traditional hives. Besheno and its surrounding area (30 PAs) have high potential for bee-farm.

Virtually, beekeeping practice in the woreda is dominantly indigenous. Most farmers do not give due attention to apiculture and posses a few hives in the home stead. A few farmers have realized the benefit and own 15 to 35 hives and described as “Innovative apiculture farmers”. Realizing the importance of recognizing framers’ knowledge and existence of diverse and rich culture of beekeeping, this paper documents the indigenous beekeeping practice in Alaba Special woreda.

#### HISTORY OF BEEKEEPING IN ALABA SPECIAL WOREDA

*Indigenous* knowledge is defined as part of local knowledge which people in a given community have tested over centuries of use and adapted to local culture and environment (FAO, 2005; IIRR, 1966). Likewise, the present day practice of beekeeping in Alaba is believed to have come from adjacent woreda, Kembata. The first area which is believed to have adopted must have been highland “*Dega*” areas of Alaba. The areas include Besheno, Kobo and Teffo areas which are agro-ecologically described as area of better vegetation cover, mild climate, wet and have high bee colony. Farmers’ reasons of adopting bee-keeping lies on its little demand for labor and land, multiple use of honey including its incomes and medical value.

Although the exact time at which beekeeping practice started in Alaba is not known, it is believed that the practice started before four decades. A pioneer in beekeeping, in present day Alaba, is Dalalo (whose fathers’ name is unknown). Dalalo was settler form Kembata and was known for hanging several traditional bee-hives.

## INDIGENOUS VALUE OF HONEY IN ALABA

Indigenous knowledge is embedded in community practices, institutions, relationships and rituals (FAO, 2005). The importance of honey in developing relationship, establishing institutions and its significance in rituals is well reflected in value of honey for Alaba ethnic group. The social and medicinal values of honey in Alaba signify the role of apiculture in livelihood of the community (Table 1).

<b>Table -1- Social Value of Honey in Alaba</b>		
<b>No</b>	<b>Social Events</b>	<b>Description of social event and honey use</b>
1	Conflict resolution	When people quarrel, honey is given through <i>hagershimagile</i> * as compensation. Likewise, murderer provides honey through <i>hagershimagile</i> to deceased family. In conflict resolution the <i>Hagershimagile</i> drips honey on bodies of who quarrel or both families to make the agreement binding once and for all.
2	Matrimony ceremony	Honey is provided to bride family by bridegroom to express wish for love based friendship in marriage. Honey is provided to bride family by <i>hagershimagile</i> as gift before wedding day on “Nika” ( <i>yekelebet ken</i> ) ring ceremony day. Honey is consumed by brides on wedding ceremony.
3	Religious, blessing & gift ceremony	Honey consumed during major festivals (Ed-alifetir & Ed – aliarefa) in Alaba. Elders in Alaba bless others by dripping honey up on one to be blessed. Honey is also given as a special gift for close relatives, locally respected, leaders and elders.

\*are community representative and are elders with highest social value among the community. Also called Badi BaliKi.

## MEDICINAL VALUE OF HONEY IN ALABA

It is said that the word "medicine" derives from "mead" (honey wine). Honey and the products of bees have long been used as medicine. Countries in Asia and eastern Europe have a wealth of traditional knowledge of apitherapy. Honey has antibiotic properties; it is highly acid and also contains enzymes that kills bacteria. Honey is good for healing wounds, skin treatment (Bradbear, 2004). The medicinal values of honey is a common

knowledge among farmers in Alaba Woreda. All respondents have indicated that honey is used as medicine for the following diseases: Pneumonia “*yebird beshita*”, “eye disease or trachoma” “*yeayin beshita*”, Tuberculosis (T.B) “*yesanba beshita*” and leprosy “*kumtina*” in the woreda. Methods of using honey as medicine, however varies in the community depending on the types of diseases and user. For example, pneumonia is treated by using honey mixed with different spices (“*nech azmud*”, “*tikur azmud*” and onion “*shinkurt*”) and butter with varying proportion and application rate.

Indigenous knowledge is acquired and handed as lore from generation to generation in the form of stories, tales or proverbs. These proverbs signify the value of honey in the culture (Table 2).

<b>Table -2- Selected Proverbs Associated with Honey in Alaba Speical Woreda</b>		
<b>Alabigna</b>	<b>Amharic</b>	<b>English Translation and connotation</b>
Afonteki melebu.	Afihin be mar.	<i>Keep your mouth with honey.</i> Imply importance of using proverbs in speech and importance of silence than speaking.
Zizu gimi kelu.	Niboch tegnetew yiwuledu.	<i>Let bee-colony yield long in hive.</i> Wish expressing bee-colony to yield more stay long without absconding.
Melebu shuri lobe nobeit.	Mar lekelid ayekerbim.	<i>Honey is not honored in joke.</i> Signifies the high values of honey.
Melebu afema angeta afo mesu agurenosiba.	Mar yenekewun eji wode afi mewusedu aykerbim.	<i>A finger with honey ends up going to mouth.</i> Indicates sweetness of honey.
Menchi womu yosiga, ziziha womu yosi.	Le sew nigus endalew le nibim nigus alew.	<i>As there is king to people so there is king to bees.</i>
Menin lochakemo fitin shuleno	Nefsin yegedela be mar yicherisal	<i>He who kills soul, winds up things by Honey.</i> Reflects role of honey in conflict resolution.
Fitin lochakemo tibin shuleno.	Marin yesereka be afer yicherisal.	<i>He who steals honey, will end up in soil.</i> Connotes danger of stealing honey.

## FEATURES OF INDGENIOUS BEE KEEPING IN ALABA

Grima Deffar (1998) has reviewed that traditional hives in Ethiopia are made of bark, climber, cow dung, bamboo, etc.... In Alaba indigenous materials which are used construction of hives include bamboo leaves and cuttings, climbers, local grass and fiber form false banana"enset", rope and dung to enable hive maintain heat. Farmers have ranked construction materials according to their preference. Farmers ranked bamboo tree as best material because of long durability, ease for construction (can bend easily), water proof and capacity to attract bee colony. Materials like thatched grass and tree fibers or climbers were ranked least because of less durability and poor capacity to attract colony. There is little diversity in constructed indigenous hives and two major types are identified based on size of hive diameter as wide and narrow. The latter is preferred by bees for its capacity to provide heat. As described by Kolawole (2001) special features indigenous technical knowledge (ITK) are inherent features of construction material and method listed by respondents for being cost-effective, user-friendly and easily communicated.

The existence of local planting of nectar-yielding vegetation or good honey plants near like Eucalyptus plantations, *Vernonia amygdalina*, *Salvia spp.* near hive colonies by farmers in Ethiopia (Girma Deffar, 1998). Farmers have commonly identified four major trees types ranked according to their preference to hang traditional bee hives and as bee forage source in the following order of importance from best to least as 'Sholla' Ficus tree, 'Wanza' Cordia, 'Bisana' Croton spp., and 'Girar' Acacia. Tree length to protect from theft, branching feature and canopy density were described as good features of the trees.

Deliberate feeding of bees in Alaba farmers is uncommon. But some respondents have indicated that they feed flour of pea, boiled pumpkin and provide solution of sugar in dry season when there is feed shortage. They also responded that they avail water for their bees.

Most respondents replied that male and female within family share various activities in beekeeping. Mostly, honey harvesting, colony inspecting, apiary sanitation and honey marketing are concern of males than females. On the other hand, assisting males during honey harvesting, bee feeding in dry reason and to lesser extent honey marketing are also handled by females. On top of these, to get more honey farmers in Alaba keep trees that are used as bee forages and ensure cutting of these trees. Like wise, farmers' avail feed during drought season to prevent absconding and keep neatness of apiary site. List of local bee forages are indicated by respondents (Table 3).

<b>Table -3- Indigenous Bee Forages Listed by Alaba farmers</b>			
<b>No</b>	<b>Amharic name</b>	<b>Alabigna</b>	<b>Common / English name</b>
<b>1</b>	Mechi	Sheshe	Weed type, flower
<b>2</b>	Bokolo	Bokola	Maize
<b>3</b>	Girawa	Heba	Vernonia mycrocephala
<b>4</b>	Weyira	Wera	Olive tree
<b>5</b>	Bisana	Mesena	Croton Spp.
<b>6</b>	Wanza	Wanja	Cordia
<b>7</b>	Atse faris	Mechareka	Weed type,
<b>8</b>	Sensel	Gulbana	Tree used for fencing
<b>9</b>	Duba	Deba kula	Pumpkin

Fumigation is traditional method used by farmers to attract bee colonies. Various indigenous materials were used to attract bee colony by farmers in Alaba special woreda. Materials for fumigation include cow dung, bee wax, and '*hantezo*' plant. Once hives are constructed from traditional materials, farmers smoke them using cow dung and '*hantezo*' plant. Once the hives are fumigated, hive entrance is kept close for couple of hour before hanging on the trees.

To retain bee colonies and avoid absconding; farmers frequently spray water when bees show sign of absconding. Skilled farmers have reported that they arrest or kill newly born

queen that initiate absconding of colony. Farmers use a queen retaining device locally constructed from maize or sorghum stack. The device is locally called as “*shirga*”.



Absconding is usually observed at mid day usually in October. It is believed that absconding is exacerbated by lack of feed and unfavorable situation e.g invasion by predator. FAO (1990) describes that the success or failure of beekeeping with the common honeybee depends largely on the ability of the beekeeper to take suitable measures to control diseases and natural enemies of insects, birds and mammals affecting bees. Various indigenous bee predators’ protection method exists in the area. *Sherarit* (Spider), *Enshilalit* (Lizard), *Gundan* ( Ant) and *Yesem Etchi* (Wax moth) are protected by cleaning the site. Pests like ant is protected using ash and local repellent. A predator like *Shelemetimat* (Genet) is protected using local trap.

#### INDIGENOUS CLASSIFICATION

People have recognized throughout ages, species of bees belong to the genera *Apis* (honeybees), *Trigona* and *Melipona* (sting less bees) as sources of honey. The most widely used honeybees are *Apis mellifera*, the honeybees are indigenous to Africa (Bradbear, 2004). Like wise the scientific taxonomy, indigenous classification associated with beekeeping exist in the study area.

Honey is known in the study area as “*Melebu*”, “*Fita*” and “*Wodefa*”. There are four indigenous classes of honey recognized by respondents based on honey color and test. The classes are “*waju melebu*” white (attractive and sweetest of all), “*bullu melebu*” yellow (less attractive and sweeter than white), “*bisha melebu*” red (less attractive than white and yellow), and “*gembella melebu*” black honey (least attractive in color and taste). Farmers categorize bees based on their color as black (less aggressive and productive) and red bee (more productive aggressive and stinging). FAO (2005) describes common knowledge is held by all people, shared knowledge is by many and specialized knowledge is held by few people (FAO, 2005). Some farmers identify and describe queen bees and others bee types which is noted as specialized knowledge.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

### **CONCLUSIONS**

- History of apiculture in Alaba shows that the knowledge of apiculture diffused from adjacent woreda, Kemata, over several decades.
- The indigenous values of honey reflects role of apiculture and its significance in livelihood of Alaba people.
- Development of apiculture sector as source of food and income could be successful because of cultural base, less demand for land, labor and value of honey in Alaba.
- The wealth of bee-keeping indigenous knowledge in Alaba is reflected in existence and use of indigenous methods used for colony attraction, protecting coolly absconding and existence of special devices like “*Shriga*”, farmers’ indigenous classification of bees, honey, hives and bee-forages.

### **RECOMMENDATIONS**

- It is recommended that farmers who can identify queen bee, use and construct queen cage can be potential candidates for queen rearing business in the woreda.
- In present apiary development effort in the woreda, it is recommend that bee forages production continues along with supply of modern-hives.

- Indigenous knowledge in bee-keeping in Alaba is so immense that focused studies be conducted on comparative investigation of indigenous queen cage with modern one.
- It is recommended that Amharic version of indigenous methods of colony attraction, preventing absconding, bee-predator protection, be prepared as leaflet and distributed to beekeepers in the woreda.
- It is recommended that findings of this study be shared among OoARD extension staff to enable them aware of recognizing indigenous bee-keeping knowledge and its role in current apiculture development effort.

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