

Tanzania-The status of Tanzanian honey Trade- Domestic and International Markets

Mwakatobe, A. and Mlingwa, C.

Tanzania Wildlife Research Institute, P.O. Box 661, Arusha, Tanzania

.Tel: +255 0 (27) 2509871/2544677

Fax: +255 0 (27) 2548240

E-mail: tawiri@habari.co.tz

1.0 Background Information

Beekeeping in Tanzania plays a major role in socio-economic development and environmental conservation. It is a source of food (e.g. honey, pollen and brood), raw materials for various industries (e.g. beeswax candles, lubricants), medicine (honey, propolis, beeswax bee venom) and source of income for beekeepers. It is estimated that the sector generates about US\$ 1.7 million each year from sales of honey and beeswax and employ about 2 million rural people. It is an important income generating activity with high potential for improving incomes, especially for communities living close to forests and woodlands. Beekeeping also plays a major role in improving biodiversity and increasing crop production through pollination.

Beekeeping in Tanzania is carried out using traditional methods that account for 99% of the total production of honey and beeswax in the country. Approximately 95% of all hives are traditional including log and bark hives. Others are reeds, gourds, pots etc. During the colonial and early independence period the production of bee products was higher than what we have now and was among the important non-wood products from the forests with a higher contribution to the national GDP and international trade (Kihwele, 1991). However, today the industry has declined in exports to an insignificant level despite of its high potential.

Tanzania (i.e. then Tanganyika) was an important source of beeswax during the Germany colonial period (Ntenga, 1976). The production of beeswax from Tanzania increased from 320 to 905 tons during 1906 to 1952. Honey was estimated at an annual average production of 10,000 tons, all consumed locally (Smith, 1958). Following independence in 1961, a marketing organization of honey and beeswax was formed. According to Ntenga (1976), Tanzanian exports averaged 368 tons of beeswax and 467 tons of honey. During the 1996/97 period, the

annual exports dropped to 359 tons of beeswax and 2.46 tons of honey (Tanzania Customs Department, 1997).

According to Seegeren *et al.* (1996), in 1984 world honey export totalled 270 000 tones of which 60% came from the tropics. Prices varied between US \$ 0.7 and 2.5 kg⁻¹. Beeswax, which, among other things, is used in the manufacture of cosmetics, candles, foundation sheets for hives, medicines and polishes, had a good and very stable market. In 1990 world market prices varied between US\$ 2 and 3 kg⁻¹. Beeswax production varies from 0.2 to 0.5 kilograms hive⁻¹ year⁻¹ when frames are used and 0.5 to 2 kilograms hive⁻¹ year⁻¹ when the honey is pressed and all combs are melted.

In Tanzania traditional beekeeping is credited for almost all production of honey and beeswax (Mwakatobe, 2001). Besides playing wider domestic roles in the bees and bee-products industry in Tanzania, beekeeping is also a good source of foreign exchange earnings. The information currently available indicates that during the year 1996/1997, Tanzania exported 359 tons of beeswax and 2.46 tons of honey worth US\$ 1 019 020 and US\$ 2 058 respectively (BDP, 2005; Tanzania Customs Department, 1997). Several authors (Kihwele & Bradbear, 1989; TFAP, 1988; Mlay, 1997) have estimated that the production of bee products could increase by 50%, if its potential could be optimally exploited.

2.0 POTENTIAL AND PRODUCTION OF THE BEE PRODUCTS

2.1 Beekeeping potentials and production

Tanzania is endowed with favourable environment for production of honey, beeswax and other bee products. The country has about 33.5 million hectares of forests and woodlands that are scattered throughout the country and are ideal for developing beekeeping industry. Almost 20.5million hectares out of this area are unreserved forests and woodlands, while 13 million hectares of forest and woodland have been gazetted as forest reserves. More than 80,000 hectares of the gazetted forest reserves consist of forest plantations that are also suitable for beekeeping. The mangrove forests of mainland Tanzania that covers about 115,500 ha are

also valuable as bee fodder. High potential for beekeeping is also found in agricultural land where substantial bee products can be harvested from agricultural crops e.g. sunflower, green beans, coffee, coconut and sisal. The presence of both stinging and non-stinging honeybees coupled with existence of indigenous knowledge in beekeeping is also a great potential (see Table 1).

It is estimated that Tanzania has about 9.2 million honeybee colonies where production potential of bee products is about 138,000 tons of honey and 9,200 tons of beeswax per annum (URT, 1998). These are worthy US \$ 138 million and US \$ 18.4 million, respectively (using average prices of the year 2003, i.e. US \$ 1 per kg. of Honey and US \$ 2 per kg. of beeswax). *Present Utilization of this potential is only about 3.5% annually.*

Table 1: Honey production potentials and actual production in selected districts in Tanzania

High producing area			Medium producing area			Un-exploited areas		
District	Potential (Tons)	Actual (tons)	District	Potential (tons)	Actual (tons)	District	Potential (tons)	Actual (tons)
Kahama	4,000	500	Kondoa	3,000	300	Lindi	8,000	50
Mpanda	8,000	1,500	Kiteto	2,000	250	Songea	6,000	50
Sikonge	6,000	2,000	Babati	1,200	150	Iringa	5,000	40
Urambo	6,000	1,400	Kibondo	4,000	250	Biharamulo	4,000	15
Nzega	4,000	400	Handeni	3,000	150	Kasulu	4,000	5
Tabora	5,000	1,200	Kigoma	3,000	100	Newala	4,000	15
Chunya	6,000	400	Arumeru	1,500	100	Tunduru	4,000	15
Manyoni	8,000	600	Rufiji	2,500	50	Singida	3,000	5
Bukombe	5,000	800	Nkasi	1,500	50	Hai	2,500	5
Total	52,000	7,800		21,700	1,400		40,000	180

Production ratio of honey and beeswax per colony per year is estimated to be 15: 1

Source: National Beekeeping Programme, 2001.

2. 0 LEGAL AND INSTITUTIONAL FRAMEWORK

2. 1 The National Beekeeping Policy, 1998

The Government of Tanzania developed the National Beekeeping Policy (NBP) in 1998. The overall goal of the National Beekeeping Policy is to enhance the contribution of the beekeeping sector to the sustainable development of Tanzania and the conservation and management of its natural resources for the benefit of present and future generations. NBP encourages active

participation of all stakeholders in establishment and sustainable management of bee reserves and apiaries, promoting beekeeping-based industries and products and promoting sustainable management of beekeeping in cross – sectoral areas for ecosystem conservation and management. To enable effective implementation of the NBP, two instruments have been put in place:

- The National Beekeeping Programme (NBKP) and
- The Beekeeping Act No. 15 of 2002.

2.1.1 The National Beekeeping Programme

The National Beekeeping Programme (NBKP, 2001) is an instrument designed to put into practice the NBP with emphasis on stakeholders participation in the planning, management, ownership and sustainable utilization of bee resources for poverty eradication, improved biodiversity development and environmental conservation. The programme has three sub programmes including Beekeeping Development Programme, Legal and Regulatory Framework Programme and Institutional and Human Resources Development Programme.

2.1.2 The Beekeeping Act No. 15, (2002)

The Beekeeping Act No. 15 of 2002 was enacted by Parliament in April 2002. Its main objectives are: (i) To make provisions for the orderly conduct of beekeeping; (ii) To improve the quality and quantity of bee products; (iii) To prevent and eradicate bee diseases and bee pests, and (iv); To improve revenue collection.

2.3 National Forestry Policy, 1998

The National Forestry Policy Provides opportunities for beekeepers to practice beekeeping in forest reserves.

2.4 Wildlife Policy of Tanzania, 1998

Beekeeping activities are encouraged to be carried out in Wildlife Management Areas (WMA) by involving local communities. With special permission from the Director of Wildlife beekeepers are allowed to carry out beekeeping in game reserves and game controlled areas.

2.5 Village Land Act, 1999

The Village Land Act 1999 is one of the most important legislative texts that support community based natural resources management (Wily, 2003). It empowers the community at local level (village) recognising it as the appropriate representative structure to implement natural resources management. In view of this, through village land use management system beekeepers can be allocated land for beekeeping development.

Our main challenge now is to use this enabling environment created by the Policy, Programme and legal framework to encourage Tanzanians and other investors to take up beekeeping so that they can benefit in terms of income, poverty reduction and conservation of environment.

3.0 MARKETS OF BEE PRODUCTS

3.1 Internal market

According to Mapolu (2005), the internal markets for honey and beeswax are not well established. Demand for honey as food and as an authentic ingredient in various foods and as a product with healing qualities is increasing. About 50% of honey produced is sold locally for honey beer and honey wine production and about 10% of honey produced are consumed locally as industrial honey in confectioneries and pharmaceutical industries. At the beekeepers gate 1 kg of honey is selling between 0.6 US\$ and 0.9 US\$ while in cities like Dar-es salaam, Arusha, Moshi etc the price of honey is between 1.0 US\$ and 2.5 US\$ per kg.

The potential unexploited markets are large towns, hotels, airlines and tourist centres if packed in proper packaging materials. Only very small quantities of beeswax are consumed locally in candle making and batiks. The price of 1kg of beeswax is selling between 1.5 US\$ to 2.5 US\$.

In the domestic market, the key players are beekeepers, private traders, processors, associations and honey beer brewers.

3.2 International market

Demand for honey and beeswax in the world market is very high and the demand for Tanzania honey and beeswax exceeds supply. The international markets for Tanzanian honey and beeswax are highly competitive in terms of quality. In 1991, Tanzania honey won by 100% the quality test for "organic honey" in UK. However, quality control in terms of other factors such as "HMF", color, taste, viscosity and aroma, needs legal directives that will have to be adhered by all people handling the honey before it reaches the consumer (URT, 1998).

The main buyers of Tanzania honey are the European Union member countries especially The UK, Germany and The Netherlands. Other countries are United Arab Emirates, Oman and Kenya. The main importers of Tanzanian beeswax are Japan, USA and European Union member countries. Regarding international market prices, the highest quality table honey price is 1,200 US \$/ ton, while industrial honey is only about 1,000 US \$/ ton. The price of beeswax is 5,000 US\$ per ton. Table 2 below shows the export trend of honey and beeswax for the last five years.

Table 2: Tanzania Honey and beeswax exports for 1998/99- 2003/2004

Year	Beeswax		Honey	
	Tons	Value (US\$)	Tons	Value (US\$)
1998/99	403.0	1,440,678.0	39.0	35,533.0
1999/2000	643.0	2,405,550.0	156.0	167,698.0
2000/2001	370.0	1,056,790.0	12.3	14,760
2001/2002	235.0	617,618.0	-	-
2002/ 2003	592.0	1,776,000.0	823.13	905,443.0
2003/2004	332,0.0	1,165,490.0	821.0	1,087,657.0
2004/2005 Nov.	193.0	757,400.0	367.72	418,358.0

Exchange rate: 1USD= 1069 TAS
Source: BDP, Mapolu (2005)

Tanzania honey fetches high prices on the international market. For example, during 1999/2000 one ton of honey fetched 3,741.13 USD (Table 3), while the price of beeswax was about 1,075 USD. When compared with the prices of other export crops, export prices of bee products have remained relatively high which indicates high demand and lucrative opportunity for Tanzanian bee products.

Table 3: Export prices for Bee Products for 1999/2000 to 2002/2003

Year	Honey		Beeswax	
	Tshs/ton	USD/ton	Tshs/ton	USD/ton
1999/2000	2,950,624.83	3,741,13	849,883.11	1,074.99
2000/2001	2,284,951.35	2,856,19	959,349.59	1,200.00
2001/2002	2,365,345.45	2,628.16	904,616.35	1,157.50
2002/2003	3,000,000.00	3,000.00	931,982.97	1,168.75

Source: FDB, 2004

4.0 CONSTRAINTS OF BEEKEEPING INDUSTRY IN TANZANIA

The major constraints that hinder beekeeping development in Tanzania as stipulated in the policy can be grouped in three categories as follows:

(i) Poor quality of bee products

- Inadequate skills/knowledge to apply improved technologies.
- Use of inappropriate technology in harvesting, processing, storage and packaging.
- Poor storage of products.

(ii) Low production of bee product

- Poor use and access to improved production technologies.
- Increased loss of beekeeping areas.

- Inadequate and ineffective extension services.
- Inadequate statistical information to guide plans and operations.

iii) Inadequate marketing of bee product

- Inaccessibility to markets.
- Unreliable transport.
- Lack of market information.
- Inadequate entrepreneurship skills among beekeepers.
- Inadequate joint efforts in marketing.

5.0 MARKETING IMPROVEMENTS

According to Ngaga *et al* (2005), there are opportunities for improving marketing practices and efficiencies exist in Tanzania for both domestic and international markets.

5.1 Domestic Markets

In Domestic Markets the opportunities include:

- a) Improving the awareness of the uses of bee products;
- b) Increasing outputs per head per beehive;
- c) Creasing sustainable bee reserves;
- d) Enabling entrepreneurs, beneficiaries and stakeholders to perform efficiently;
- e) Increasing the availability of relevant information to all stakeholders and beneficiaries;
- f) Developing market centres in strategic locations for collecting and storing bee products and providing solutions to beekeepers' needs and problems;
- g) Improving access to support services from private, government; and international agencies;

5.2 International Market

International marketing opportunities include:

- a) Collection and dissemination of market information;
- b) Knowledge of demand, supply delivery requirements;
- c) Improvements in market accessibility (e.g. reduction in restrictive, productive and preventive trade practices and regulations quality control, etc.);
- d) Improvement in export prices, packaging; and
- e) Increases in trade development.

6.0 EFFORTS FOR POLICY IMPLEMENTATION

The Government with the support of donors, private sector and NGOs has initiated several interventions to support beekeeping development through improvement of quantity and quality of bee products in Tanzania.

Few examples are as follows:

6.1. Government budgets

The Government in its annual budget sets fund for beekeeping activities such as training of extension workers, surveying and demarcation of bee reserves, extension services and quality control of the products.

6.2. Beekeeping Development Project in five Districts

The Government of Norway through NORAD is cooperating with the Ministry of Natural Resources and Tourism (MNRT) in supporting beekeeping in five potential Districts (Handeni, Manyoni, Kondo, Kibondo and Tabora) through the Beekeeping Development Project (BDP). BDP was formed as a strategy to implement the National Beekeeping Policy (1998). BDP is implementing sub programme of **Beekeeping Development Programme** of the NBKP, 2001.

6.2.1 The purpose

The purpose of the BDP is to increasingly involve communities and other stakeholders in managing honeybee resources in sustainable manner.

6.2.2 The key project activities

- Information management,
- Extension and information dissemination,
- Institutional collaboration with internal and external institutions,
- Capacity building of resource managers and entrepreneurs and
- Improved processing, packaging and marketing of bee products.

The BDP is implemented through a partnership between the Forestry and Beekeeping Division (FBD), District Councils and Beekeepers (local communities).

6.2.3 Major achievements

i) Establishment of bee reserves

The National Beekeeping Policy (1998) envisages setting aside sufficient forest cover as bee conservation area for the purpose of providing areas for production of bee products; conservation of biodiversity; source of packaging bees etc. The villages in these five districts have proposed an area of 82,931 ha as bee reserves. Out of these 20,732 ha (25%) have been surveyed and demarcated.

ii) Training of extension agents

The project has already trained 1,400 beekeepers in appropriate beekeeping technologies where by 662 are women and 738 are men. The trained beekeepers are the trainers for other

beekeepers.

iii) Production of extension materials

Publishing a book, Beekeeping in Tanzania (Swahili and English Versions). The sales of the books are expected to generate Tshs 82,500,000 that will be a contribution to Beekeeping Development Fund (BEDF). Several leaflets and brochures have been produced and disseminated to the stakeholders.

iv) Average honey production increase

The average production of honey per trained beekeeper has increased from 3.7 tons in the year 1999 to 6.5 tons in the year 2003 in Manyoni district.

v) Average income

During the period 2003/2004, the price of honey increased from Tshs 15,000 per 30kg container in June 2003 to 18,000 Tshs by June 2004. In Manyoni district for example, beekeepers accrued an average income per beekeeper of Tshs 574,403.20. Beekeepers therefore, accrued the highest income as compared to others.

vii) Training of beekeepers on processing of bee product

About 1400 beekeepers were trained on appropriate beekeeping practices including processing, packing and marketing of bee products. As a result of quality control and monitoring of bee products about 100 tons of export quality honey was purchased from the project area by several companies for export.

6.3 Intervention to be supported by the Government of Belgium

The government is expecting to receive support from the Government of Belgium. This support will specifically focus on the **development and improvement of processing, packaging, and marketing of honey beeswax and other bee products**. The project is expected to work on three districts of Rufiji, Kibondo and Kigoma. The government in collaboration with the

Government of Belgium has prepared an identification study, which was submitted to the Belgian Government in July 2004.

7.0 Future Plans

Completion and put in operational two important documents for quality assurance of bee products;

- National Beekeeping Standards
- Beekeeping Regulation

8.0 Conclusion

Beekeeping in Tanzania has a great potential of contributing to poverty reduction through income generation to the beekeepers and the government, creating employment to the community and improving biodiversity. It is our duty and responsibility to support community to utilize this potential to improve livelihood.

9.0 REFERENCES:

Biesmeijer, K. (1992). Beekeeping and biodiversity: Socio bees as pollinators in the tropics. In: *Proceedings of the second NECTAR seminar* (Edited by Beetsma, J.). 28 August 1992, International Agricultural Centre, Wageningen, Netherlands, pp 140: 43-59.

Kihwele, D.V.N. (1991). Paper presented on *Annual seminar of R & D advisory committee on Natural resources Research*. 4 July, 1991. Dar Es Salaam, MNRT. pp 54:4.

Kihwele, D.V.N. and Bradbear, N. (1989). TFAP, Tanzania Sector Review Mission Report of Beekeeping. Dar Es Salaam, MNRT. pp 15.

Mapolu, M. (2005). *Beekeeping In Tanzania; An Overview*. pp 8.

Mlay, C. (1997). Opening remarks. In: *Proceedings of the Workshop on Low productivity of honey and beeswax in East Africa* (Edited by NWRC). 19 - 21 May 1997, A.I.C.C. Arusha, Tanzania, pp 79: 8 -9.

Mwakatobe, A.R. (2001). The Importance Of Homegardens On Beekeeping Activities In Arumeru District, Arusha-Tanzania. Dissertation Submitted In Partial Fulfilment Of The Requirements For The Degree Of Master Of Science In Management Of Natural Resources For Sustainable Agriculture Of Sokoine University Of Agriculture. pp 147.

Ngaga, Y.M., Otsyina, R., Senkondo, E. and P. Mpuya (2005). Economic Survey on the Role of Beekeeping in Poverty Reduction and Environmental Conservation in Chunya, Songea and Nachingwea District in Tanzania.

Ntenga, G. (1976). Beekeeping Development programmes in Tanzania. In: *Proceedings of the Workshop on Apiculture in the Tropical Climates*. IBRA, London, pp 207:147-154.

Seegeren, P., Mulder, V., Beetsma, J and Sommeijer, R (1996). Beekeeping in the Tropics. *Agrodok Series No. 32*. AGROMISA. Sixth edition. Wageningen Publisher, pp 84:7.

Smith, F.G. (1958). *The origin and functions of the Beekeeping Division*. Empire Forestry reviews 32 (92): pp 159-164.

TFAP, (1989). *Ministry of lands, Natural Resource and Tourism. Dar Es Salaam, Tanzania*. pp 12..

URT, (1998). *National Beekeeping policy*. Ministry of Natural Resources and Tourism