



THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF NATURAL RESOURCES AND TOURISM
FORESTRY AND BEEKEEPING DIVISION

**EVALUATION REPORT ON IMPLEMENTATION
STATUS OF THE NATIONAL BEEKEEPING
POLICY OF 1998**



MARCH 2020



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LIST OF ACRONYMS AND ABBREVIATIONS

ADAP	- Association for the Development of Protected Areas
BTI	- Beekeeping Training Institute
CCD	- Colony Collapse Disorder
CCM	- Chama Cha Mapinduzi
DAPOTA	- Disaster Awareness and Preparedness Organisation in Tanzania
DBO	- District Beekeeping Officer
EAMCEF	- Eastern Arc Mountains Conservation Endowment Fund
EIA	- Environmental Impact Assessment
FBD	- Forestry and Beekeeping Division
FTI	Forestry Training Institute
IPM	- Integrated Pest Management
MNRT	- Ministry of Natural Resources and Tourism
NBP	- National Beekeeping Policy
NBPIS	- National Beekeeping Policy Implementation Strategy
NBRC	- National Beekeeping Research Centre
NCAA	- Ngorongoro Conservation Area Authority
NFBP II	- National Forestry and Beekeeping Programme Phase Two
NGOs	- Non-governmental Organisations
NORAD	- Norwegian Agency for Development Cooperation
NWRC	- Njiro Wildlife Research Centre
PO-RALG	- President's Office – Regional Administration and Local Government
SEKOMU	Sebastian Kolowa Memorial University
SIDO	- Small Industries Development Organization

SNV	- Netherlands International Development Organization
SUA	- Sokoine University of Agriculture
TABEDO	- Tanzania Beekeeping Development Organisation
TaFF	- Tanzania Forest Fund
TPRI	Tropical Pesticides Research Institute
TANAPA	- Tanzania National Parks Authority
TAWA	- Tanzania Wildlife Management Authority
TAWIRI	- Tanzania Wildlife Research Institute
TBS	- Tanzania Bureau of Standards
TFDA	Tanzania Food and Drug Authority
TFS	- Tanzania Forest Services Agency
THC	- Tanzania Honey Council
UDSM	- University of Dar es Salaam
WWF	- The World Wide Fund for Nature

PREFACE

Beekeeping in Tanzania has been a traditional occupation since time in memorial due to the high production potential the country is endowed with. Such strength motivated the Ministry of Natural Resources and Tourism (MNRT) to develop the National Beekeeping Policy (NBP) in 1998 to guide development of the sector. Since then several institutional and policy reforms geared towards revitalising the national economy have occurred. However, the reforms are known to have changed the macro-economic and environmental frameworks substantially, which in turn have affected the implementation of the NBP, 1998 in one way or the other and consequently necessitating evaluation. Thus, evaluation of the implementation status of the NBP, 1998 was carried out from April 2019 to March 2020 through a commissioned Task Force. The evaluation aimed to check whether the current policy is still effective, efficient and relevant to address the challenges facing the sector development.

The evaluation process was consultative, engaging a wide range of key stakeholders within and beyond the beekeeping sector, from local to national levels. Detailed analysis was systematically undertaken on the data and information available for the period 1998 to 2020.

This report informs stakeholders on the findings of the evaluation based on the implementation successes, challenges, shortcomings, conflicting, new (emerging) and crosscutting issues. It is hoped that the identified gaps and recommendations in this work will pave a way for feasible interventions by diverse stakeholders. Consequently, this will contribute immensely to the growth of beekeeping sector and hence contribute to socio-economic development of present and future generations.



Prof. Adolf F. Mkenda

PERMANENT SECRETARY

MINISTRY OF NATURAL RESOURCES AND TOURISM

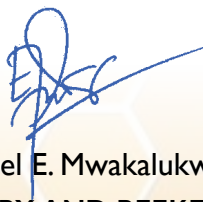
ACKNOWLEDGEMENTS

The systematic evaluation of the implementation of the National Beekeeping Policy of 1998 which commenced in April, 2019 and completed in March 2020, with the aim to gauge its effectiveness, efficiency and relevancy was undertaken by a Task Force team which was appointed by the Permanent Secretary in March 2019. The Task Force was made up of Prof. Shombe N. Hassan, Dr. Samora A. Macrice (Sokoine University of Agriculture), Dr. Mkabwa L. K. Manoko (University of Dar es salaam), Dr Angela R. Mwakatobe (Tanzania Wildlife Research Institute), Mr. Seif S. Salum (Presidents' Office Regional Administration and Local Government, Tabora Municipality), Ms. Monica A. Kaga (retired MNRT staff), Mr. Audax R. Bahweitima, Mr. Philip Ndilahomba (Ministry of Natural Resources and Tourism) and Ms. Luciana E. Mshana (Tanzania Forest Services Agency). I would like to thank the Task Force members for their commitments and tireless efforts that contributed to the successful completion of this important task.

Through the process, many and diverse key stakeholders were consulted, from individual beekeepers, beekeepers' groups and, agencies to private and government institutions. I would like to acknowledge with thanks all stakeholders who heartedly participated in this important exercise.

The Permanent Secretary from the Ministry of Natural Resources and Tourism is acknowledged for financial support without which this work would not have been possible. Mpingo Conservation and Development Initiative (MCDI) is acknowledged for support of the printing of this document.

It is my sincere hope that key recommendations provided will be acted upon by stakeholders in their different capacities for the betterment of the sector.



Dr. Ezekiel E. Mwakalukwa

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1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Beekeeping has long known to associate with man and form an important component of culture in some communities in Tanzania. Because of the association, beekeeping sector contributes considerably to socio-economic development and environmental conservation. The sector is a valuable conservation tool, allowing people to derive economic and socio-cultural benefits from indigenous forests and other floral resources without destructing the environment. It also makes a very significant contribution to agricultural production and ensures food security through pollination services to more than 70% of economically important crops (van der Sluijs and Vaage, 2016).

Bee products are vital sources of food and raw materials for various industries, but can also be used as medicine (e.g. honey, propolis and bee venom) and provide good income for rural and urban dwellers. In 2016, it was estimated that beekeeping sector employs over 2 million people and generated foreign income amounting to 2.0 million USD from sales of honey and beeswax annually (TFS, 2018/19a). Presently, major bee products are honey and beeswax. It has been estimated that, the amount of honey and beeswax produced account only for 24.6% of the production potential. Tanzania is the second largest producer of honey and beeswax in Africa, and world-wide, Tanzania is 11th and 7th honey and beeswax producer, respectively. It is among the biggest African supplier of honey and beeswax to the European Union (EU) market. This is evidenced by 39 and 343.02 tons of honey exported during 1998/1999 and 2010/2011, respectively. Also, 332 and 534 tons of beeswax were exported during the same period.

The global demand for honey and beeswax and other bee products has increased over the past 2 decades. This trend is projected to increase steadily at least for the next few decades, because of increasing awareness and health consciousness among consumers. At the same time, investment in beekeeping by various stakeholders along the value chain has increased in Tanzania. Nevertheless, supplies

of Tanzania honey and beeswax on the global market declined during 2016/17. For example, honey export decreased by 45%, and beeswax by 62% from 2010/2011 to 2016/2017, despite the aforementioned rise in global demand.

Since 1998, management of the beekeeping sector has been guided by the National Beekeeping Policy (NBP). During the same period of time, many other policies were instituted including National Environment Policy, 1997; National Forest Policy, 1998 and Wildlife Policy of Tanzania, 1998. The NBP has been implemented for 21 years, and during this period, there has been a number of institutional and policy reforms aimed at stimulating growth of the national economy. However, the reforms are known to have changed the macro-economic and environmental frameworks significantly, which in turn have affected the implementation of the NBP, 1998 either positively or negatively. Despite that, there had not been any evaluation to establish the real implementation status of the policy since its endorsement in 1998. Principally, policy must continue to be effective, efficient and relevant and this can only be checked during evaluation. Evaluation is an important and the last stage in the policy cycle. Public policy evaluation is thus an objective, systematic and empirical examination of outcomes and impact of an ongoing policy and public programme in view of the goals they meant to achieve.

Results of evaluation process are not necessarily on the failure or success of the policy, but rather the lessons learned, which make stakeholders to understand the merit, worth and utility of a policy, which may change the policy or improve on existing policy. It is envisaged that results of the evaluation of implementation of NBP, 1998 will enhance contribution of the sector to the environmental conservation and socio-economic development of the present and future generations.

1.2 MAIN OBJECTIVE OF EVALUATION

The overall objective was to assess the status, relevance, outcomes and impacts of implementation of NBP, 1998 thus determine areas that would need improvement based on lessons learned for enhanced growth of the beekeeping sector.

1.3 SCOPE

Scope of the work involved the following: preparation of work plan and budget for the evaluation of implementation of the NBP, 1998; identification of relevant documents,

and key stakeholders for the evaluation process; evaluation of the implementation of NBP, 1998 objectives; identification of policy and key management challenges that occurred during the course of policy implementation; outlining policy issues that would necessitate overhauling the NBP, 1998, if needed; outlining emerging and crosscutting policy issues that could lead to policy improvements; and preparation and submission of the evaluation report to the Permanent Secretary of the Ministry of Natural Resources and Tourism.

2.0 METHODOLOGY

The process involved three main approaches, namely literature review, questionnaire surveys and stakeholder's workshop. Following absence of National Beekeeping Policy Implementation Strategy (NBPIIS) as a fundamental evaluation tool, evaluation was carried out using Policy Objectives, Policy Areas and Policy Statements outlined in the NBP, 1998 as well as performance indicators drawn from the National Beekeeping Programme I (2001-2010). The evaluation process commenced in April 2019 and ended in March 2020, and focused on all information accessible from 1998 to 2019 for Eastern, Central, Western, Northern, Southern, Southern Highlands and Lake Zones. The Central zone was purposively selected for workshop event due to its strategic location and convenience in terms of easy consultation with Forestry and Beekeeping Division and beekeeping-allied government institutions. Apart from the three approaches complimenting each other, use of multiple approaches facilitated triangulation of collected information. Subsequently, the information led to preparation of a report on evaluation of implementation of NBP, 1998.

2.1 LITERATURE REVIEW

Desktop work to review existing and historical data and information was carried out to understand issues and capture relevant information that would help establish status of implementation of NBP from 1998 to 2019. The desktop work involved collecting trend data and information, summarizing and documenting successes, challenges, shortfalls, conflicts and emerging issues that occupy different positions along beekeeping value chain (i.e. production, processing and marketing to consumption) in the current NBP. Both published and grey literature were collected, reviewed and summarized. Grey literature, and published government documents including NBP, 1998 and related policies such as the Wildlife Policy of Tanzania, 1998; Commercial Beekeeping Strategy; and Acts (e.g. on Forestry, Land, Environment, Livestock, Water, Wildlife and Agriculture) were obtained from various government offices. Other data/information was obtained from budget speeches and journal articles.

2.2 QUESTIONNAIRE SURVEY

Data collection tools in form of questionnaires were developed to collect information on implementation of the NBP 1998. The tools were developed based on performance indicators developed from NBP, 1998 (Policy Objectives and Statements) with reference to the performance indicators in the National Beekeeping Programme I (2001-2010). The questionnaires were designed to capture specific information from specific groups and wide stakeholders including Forestry and Beekeeping Division (Appendix I), Tanzania Forest Services Agency (Appendix II), President's Office Regional Administration and Local Government - PO-RALG (Appendix III), District Beekeeping Officers (Appendix IV), Tanzania Wildlife Management Authority- TAWA and Wildlife Division –WD (Appendix V). Other stakeholders were Tanzania Forest Fund – TaFF, and Eastern Arc Mountains Conservation Endowment Fund – EAMCEF (Appendix VI) and Tanzania Wildlife Research Institute – TAWIRI (Appendix VII). Also were Beekeeping Training Institute-BTI, Forestry Training Institute-FTI, Sebastian Kolowa Memorial University – SEKOMU, Sokoine University of Agriculture – SUA, University of Dar es salaam – UDSM (Appendix VIII), Tropical Pesticides Research Institute – TPRI (Appendix IX), Tanzania National Parks Authority – TANAPA (Appendix X), Tanzania Bureau of Standards – TBS, Tanzania Food and Drug Authority – TFDA (Appendix XI), Small Industries Development Organization – SIDO (Appendix XII), Api-eco-tourism companies (Appendix XIII), as well as Traders, Processors of bee products (Appendix XIV), and Beekeepers (Appendix XV). It was necessary to design stakeholder's specific questionnaire because of the nature of beekeeping sector i.e. multiple stakeholders with different, but multiple interacting activities along the value chain. Presence of Tanzania Forest Services Agency (TFS), Tanzania Bureau of Standards (TBS), Small Industries Development Organization (SIDO) and Tanzania Forest Fund (TaFF) in the central zone offered the opportunity to access information countrywide.

2.3 CONSULTATION WORKSHOP

Stakeholders' consultation workshop was held in Dodoma to capture a wide range of opinions, views, experiences and recommendations from participants using a developed checklist (Appendix XVI). Stakeholders invited were carefully identified

to ensure representation of key actors and interested groups in private and public sector including beekeepers, local and central government officials, processors and traders, Non-Governmental Organisations, government institutions, beekeeping equipment manufacturers/suppliers and regulatory bodies (Appendix XVII). To facilitate interactive workshop, stakeholders were divided into groups for discussion, which was followed with feedback sessions.



Plate 1: Section of beekeeping stakeholders that participated in the workshop to evaluate implementation status of the NBP, 1998 held at NBS premises in Dodoma on 12-13 July 2019, posing in a group photo with the guest of honour, Hon. Mizengo Kayanza Peter Pinda, the former Prime Minister of the United Republic of Tanzania.

3.0 POLICY IMPLEMENTATION STATUS

3.1 OVERVIEW

The policy under review had one (1) goal, six (6) objectives, six (6) policy areas and forty-four (44) Policy Statements. By design, the policy goal was to be attained through undertaking Policy Objectives (3.1.1 - 3.1.6) analyses. This section summarizes the status of implementation of each of the six sectoral policy objectives. It is, however important to mention here that, the policy was executed without National Beekeeping Policy Implementation Strategy, therefore, there were no targets to guide the implementation. In this regard, achievements of the Policy are considered as the differences in level of services or outputs realised from 1998 to 2019 for each policy statement.

The sectoral policy objectives are:

- 1) Ensured sustainable existence of honeybees by maintaining and effectively managing adequate area of bee reserves;
- 2) Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same;
- 3) Enhanced beekeeping-based national development and poverty alleviation through sustainable supply of bee products (honey, beeswax, royal jelly, propolis, brood, and pollen) and pollination services;
- 4) Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products-based industrial development and trade;
- 5) Ensured ecosystem stability by practising Integrated Pest Management (IPM) and carrying out Environmental Impact Assessment (EIA) for investment inside or around Bee Reserves and Apiaries; and
- 6) Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders.

3.1.1 Ensured sustainable existence of honey bees by maintaining and effectively managing adequate area of bee reserves

The main achievements under this objective are:

There has been an increase in number of bee reserves owned by local and central government, private individuals and villages. During the initiation of NBP in 1998, there was only one (1) bee reserve managed by the central government as opposed to 9 in 2019, with an area of 39,766 ha (TFS 2018/19a). Similarly, district and village bee reserves in 1998 were non-existent, but increasingly there has been establishment of these reserves. For example, in the central zone, 6 district bee reserves covering a total area of 8,761 ha and 53 village bee reserves covering a total area of 6,941 ha have been established. Also, 37 private bee reserves have been established since the enactment of the NBP, 1998 while there was none before. However, only one of the 37 private bee reserves with an area of 452.9 ha (Ruaha Farm in Tungamalenga village) has recently been gazetted, and the process of gazettelement is on-going for the remaining 36 (Appendix XVIII). One (1) bee reserve under TFS and one (1) private bee reserve have management plans in place to guide their day to day operations. Despite joint management agreement between the government or specialized agencies and villages being advocated in the NBP 1998, achievement in this regard is still unsatisfactory. For example, only 10 out of 53 agreements have been effected in the central zone since 1998.

The main area of underperformance under this policy area is that, most of the bee reserves are yet to be surveyed hence lack management plans, a situation which puts their sustainability at risk. In addition, the distribution of bee reserves is skewed towards central and north-eastern zones while there is equally greater potential elsewhere in the country e.g. western and southern zones.

3.1.2 Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same

The main achievements under this objective are:

Four apiaries (i.e. Kibondo, Handeni, Manyoni and Kondoa) have been transferred from the Forestry and Beekeeping Division to TFS as an agency responsible for managing forest and beekeeping activities including Bee reserves under her jurisdiction as directed by the Policy. In addition, TFS has established 157 new

apiaries with 12,936 box hives in natural forests located in the seven TFS zones, and one plantation (Appendix XIX) (TFS 2018/19b). The introduction of private and NGOs apiaries is demonstrated by establishment of 90 private and 62 NGOs apiaries in the central zone, which did not exist in 1998 and before (Appendix XX). Transfer of management of the apiaries under Forest and Beekeeping to TFS has increased production of honey from 4.3 tons in 2014 to 11.2 tons in 2017, and 0.186 tons of beeswax to 0.624 tons, respectively (TFS 2018/19b), suggesting that the problems that existed in 1998 have to some extent been resolved. Moreover, production of honey per hive in Kigoma from Tanzania top bar hive (TTBH) has increased from 11.6 to 23 kg, and for log hive from 6.98 to 15 kg per year. Similarly, increase in productivity has been observed in areas where funded projects have been implemented. For example, in Kigoma Region production of honey increased from 380.5 tons in 2012 to 497.7 tons in 2016, this being 30% increase whereas total beeswax production increased from 13.6 tons to 20.2 tons during the same period (BTC 2016). However, the overall production of honey and beeswax is generally declining in the country (MNRT budget speech 2018/19). No clear reason(s) was established for this during the evaluation process.

Following good management of apiaries, quality of bee products harvested has been enhanced leading to acceptance of honey and beeswax in domestic and international markets. This is true as currently honey and beeswax are certified by TBS and accredited by European Union laboratory thus accepted in international markets. A total of 32 producers and processors of honey have been certified by TBS across the country by end of 2019 (Appendix XXI). Quality control and inspection mechanisms to beneficiaries including traders have been strengthened by engaging them through extension, annual residual monitoring plan, traceability and involvement of regulatory institutions such as TFS and TBS.

Participation of women and youths in beekeeping activities has been realized. For example, women participating in beekeeping activities in Kasulu, Kibondo, Uvinza and Mvomelo Districts ranged from 30% to 42% while that of youths ranged from 14% to 21% of the entire community (Mwakatobe et. al., 2014 & 2017). Moreover, there is a total of 104 youth and 65 women groups in the central zone. Of these, 45 and 38 groups of youth and women, respectively have been trained on beekeeping as per developed extension packages.

However, only eight beekeeping agroforestry systems have been established and managed by private entities in the central zone. This slow pace of development in this area could partly be indicative of insufficient extension services.

It is evident that production of honey and beeswax has improved particularly in areas where there have been more investments through beekeeping projects. Deliberate efforts should be directed towards unreached project areas to emulate similar impacts. Participation of youths and women in beekeeping be further encouraged (e.g. in agroforestry systems) to curb the ever increasing unemployment rate.

3.1.3 Enhanced beekeeping-based development and poverty alleviation through sustainable supply of bee products and services

The main achievements under this objective are:

There has been a considerable increase in investments in production of beekeeping equipment in the country as compared to 1998 when there was only one manufacturer and supplier. For example, there are 4 investors on production of beekeeping equipment such as hives, protective gears and processing equipment. Also, there are 16 suppliers of hives, 7 suppliers of protective gears, 1 supplier of packaging materials and 2 suppliers of processing equipment (Appendix XXII). So far there are no manufacturers of packaging materials; instead there are suppliers. Building internal capacity in production of beekeeping equipment would alleviate problem of availability and supply of such materials. Based on central zone data, there is no any credit facility specifically for beekeeping equipment.

The issue of integrated approach in using trees for multiple purposes has not been in practice. Equally, researches on alternative materials for making cheaper, alternative hives, promotion of other uses of honey and beeswax, and other bee products (e.g. royal jelly, bee venom, brood, pollen and propolis) by research institutions, private sector and community in general are still inadequate.

Before 1998, only 3 honey-based industries (Kipalapala in Tabora Region, UKI in Kibondo District, Kigoma Region and Handeni in Tanga Region) were present. There are 37 honey-based industries, which were established in the period ranging

from 2012 to 2018 across the country (Appendix XXIII). However, Kipalapala and Handeni industries are no longer operating. The rise in number of industries is due to increase in public awareness (on beekeeping investment opportunities) and government support. In fact, the government is planning to establish more bee product processing plants in beekeeping potential areas. Kipalapala was the only beeswax-based industry during establishment of the policy, but now there are 4 beeswax-based industries (TFS Manyoni, Honey care, Upendo honey and Fidal Hussein Ltd) in the country.

The number of honey and beeswax value added products has increased compared to 21 years ago. For example, there are candles, shoe polish, soap, honey wine and beer, comb honey, body lotion, flavoured honey, lip balm, packed honey, pharmaceutical and confectionaries with honey or beeswax additions. In general, these products are produced by small scale industries. However, development of medium to large industries would increase production and contribution of beekeeping sector to the economy.

Beekeepers and farmers have started using bees as crop pollinators to increase crop yields in their agricultural fields. There are 24 individual beekeepers using bees for pollination in the central zone since 2016. Pollination by bees increases quality and quantity of agricultural crops hence contributing to food security and enhancement of livelihoods. Therefore, there is a need to direct more efforts to tap this potential in the country.

There has not been much advancement in utilizing beekeeping sites for eco-tourism since 1998. However, 5 beekeeping sites owned by individuals (Hai and Kibosho in Kilimanjaro Region) and institutions (SIYECOS-Singida, TABEDO-Kondo and Njiro Wildlife Centre-Arusha) are presently being used for beekeeping based eco-tourism in the country. The little development in this endeavour has partly been caused by lack of formal cross-sectoral linkages and coordination between beekeeping and tourism stakeholders.

Unfortunately, there has not been much advancement in beekeeping equipment research by executive agencies, NGOs and private sector. This is evidenced by existence of only a handful of informal research that has been carried out, yet

not documented. This is mainly attributed to limited collaboration between research/training institutions with private sector and NGOs. It is also true that the stakeholders have not supported beekeeping research effectively.

To encourage research and innovations that would provide simple cost effective technologies to start with, the government funding bodies e.g. TaFF could set aside funds in that regard annually. One way to promote api-ecotourism would be to package it within the extension messages. Development of guidelines on using bees for pollination services will encourage more farmers to intergrate beekeeping into their agricultural fields to diversify produces and income sources.

3.1.4 Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products-based industrial development and trade

The main achievements under this objective are:

Presently, there are 210 individuals practicing beekeeping in 146 apiaries in public land in central zone. Even though the national data on apiaries established and managed is undergoing preparation, data in the central zone is indicative of progress. Use of appropriate beekeeping equipment and management methods are obligatory for positive results. Although it is difficult to collate data on use of appropriate beekeeping equipment, it is evident that more beekeepers especially those that carry out their activities in game or forest reserves now use bee protective gears. Decreased incidences of fires in protected areas where beekeepers operate support this observation. However, change of public land into other land uses due to increasing pressure on land jeopardizes these areas such that use of public land for apiaries establishment holds little prospects.

Data from central zone show that establishment of apiaries on agricultural land is taking place, with 95 apiaries of stinging and one (1) apiary of stingless bees (in Dodoma Municipality). Nevertheless, more awareness is needed on the importance of having apiaries on agricultural land to increase production of bee products as well as agricultural crops. In so doing, beekeepers should as well be encouraged to establish stingless bees' apiaries.

Beekeeping has started in game reserves based on agreements between beekeepers and respective game reserve management according to the respective reserve management plan. Seemingly, there are agreements between TFS and beekeepers, which have enabled undertaking beekeeping activities in forest reserves as evidenced by presence of 4 apiaries in Chenene Forest reserve in the central zone. Currently, 13 plantations with 36 apiaries have been set aside for managing bee resources and production of bee products in the country. More efforts need to be directed towards encouraging communities and private sector to utilize forest reserves, game reserves and plantations across the country for beekeeping activities. This might require strengthening coordination between beekeeping and forest or wildlife authorities at different levels such as local government and TFS or Tanzania Wildlife Management Authority (TAWA).

3.1.5 Ensured ecosystem stability by practicing integrated pest management and carrying out environmental impact assessment for investments inside or around Bee Reserves and Apiaries

Unfortunately, so far there are neither integrated pest management (IPM) agreements between beekeepers and pesticide applicators, nor formal cross sectoral coordination mechanism between beekeeping and pesticide applicators stakeholders. As a result, bees have continued to suffer from increased application of pesticides especially on agricultural crops. Nevertheless, efforts by farmers/ beekeepers practicing beekeeping in agricultural land in this situation are commended.

There have been investments in areas nearby bee reserves and apiaries in the central zone. For example, Singida-Namanga Electrical Project, Upepo Energy Electrical Project Singida-Arusha Road Project, and Zuzu Electrical Project are known to have complied with the requirements of environmental impact assessment (EIA) before execution.

Nonetheless increasing human activities associated with substantial removal of Itigi thickets (mainly for agriculture) threatens sustainable beekeeping. As widely known Itigi thickets are spatially restricted ecosystem present only in Zambia and Tanzania. It forms dense vegetation type and because of its unique species composition

that provides an important fodder for honey bees. It is important therefore that improved management be developed to conserve and restore the remaining Itigi thickets.

3.1.6 Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

The main achievements under this objective were development of Beekeeping Act No. 15/2002, Beekeeping Regulations of 2005, Guidelines for quality control of bee products of 2007 and bylaws, which have facilitated implementation of beekeeping activities. For example, quality control guidelines have enhanced quality of bee products to meet local and international market standards. However, harmonization of these legislations with other related sectors e.g. agriculture and environment need to be implemented. Also, evaluation of these legislations to see the need for review should be considered. Efforts to translate the Beekeeping Act to allow wider access by stakeholders are underway for effective implementation of the policy.

As opposed to the time when beekeeping policy was instituted, Strategic Analysis and Planning Unit (SAPU) were established with 4 staff (all already retired) attending training on strategic planning and policy analysis. Later on, the coordination unit was established to cater for coordination and monitoring of activities for the sector. However, following the ministerial reforms, FBD has been vested with the role of coordination. Thus, there is a need to strengthen the capacity of the Division through on job training and/or recruitment of new staff in coordination, policy analysis and strategic planning. This should go along with development of information management system, more so because effective planning cannot be achieved without well functioning database.

Royalties and other fee structures for bee products exist, being implemented at different levels and are periodically reviewed as needs arise. For example, bee products royalties and fees structure (GN 425-2005) under central government was developed in 2005 and reviewed in 2019 with GN-454-2019. However, prices of government owned bee products and services are fixed, not based on free market, which is not a good idea whereas those from private sector are flexible based

on free market economy. Because government agencies are business oriented, it is advised that prices for bee products and services also be flexible in the future. Meanwhile, when there is a change in prices, administrative order(s) are used to align with the market to take advantage of free market prices.

The country has also been successful in controlling importation of bees, bee products and used equipment to control diseases and parasites, which would harm and or kill indigenous bees. This is taken care by the beekeeping Act No. 15 of 2002, section 36. To date there are no evidences in the country with regard to breaching the law.

Since the onset of beekeeping policy, several initiatives have been carried out to ensure development and management of local bees (*Apis mellifera* species and *Trigona* spp. or *Melipona* spp.). These initiatives include introduction of bee reserves, best beekeeping practices including appropriate apiary management and enforcement of legislations. Other achievements in this area include increase in number of bee reserves, apiaries and beekeeping groups as detailed in sections 3.1.1 and 3.1.2.

Lack of national criteria and indicators for sustainable management of beekeeping resources has made it difficult to develop management guidelines for apiaries and bee reserves under different land uses (farm land, reserved and unreserved areas). Thus, it is highly advised that the said be developed to improve the overall management of apiaries and bee reserves. Development of national criteria and indicators would aid assessment of beekeeping resources for sustainable management as directed by the National Beekeeping Programme, 2001-2010.

The NBP, 1998 requires beekeeping administration to focus on policy development, regulation, monitoring and facilitation of beekeeping act. After 21 years of NBP reigning, the evaluation on implementation of the NBP 1998 has been undertaken in 2019. This action complies with policy development requirement stipulated in the NBP, 1998. The results of the current evaluation will give the way forward on how the policy should be developed.

Despite the absence of beekeeping implementation strategy, which would have contained monitoring and evaluation plan, the two were undertaken through

beekeeping programme 2001-2010, which is now outdated. Beekeeping implementation strategy provides ways and means of implementing the policy through objectives, strategies, targets (activities, timeframe and budget), monitoring and evaluation plan. Nevertheless, the National Beekeeping Programme did not show targets, budget, source of funds and implementation strategies. Therefore, there were no clarity, focus and coordination mechanisms for different players in the implementation process.

Decentralization of responsibilities has been achieved through establishment of beekeeping department at district level (in 2012 within the local government structure), being headed by a District Beekeeping Officer (DBO) with the mandate to develop and manage beekeeping sector concurrently with availability of funding from government, which was not the case before. Under the central government set up, most districts have beekeeping managers managing bee resources under the jurisdiction of TFS apiaries. However, lack of Divisional and Ward beekeeping officers in most parts of the country has led to poor coordination and consequently impairing implementation of the policy. Administrative arrangement for collaboration between central (i.e. TFS) and local government for better utilization of both human and financial resources should be strengthened at district level.

Based on central zone, policy implementation had relatively less impact on training of specialist and technical personnel during the last 21 years. This is evidenced by the presence of only 12 technical and 7 specialist staff who has received on job training. Given the severe shortage of staff country wise, it is hard to make a sound conclusion on whether the pace of training is satisfactory or not. However, gauging the number of available (98) versus required (507) staff in fifteen sampled regions country-wide (PO-RALG, 2019), recruitment is equivalent to only 19.3% of the requirement, which is far low. This recruitment phenomenon affects seriously the implementation of the policy. Beekeeping authorities at ministerial level and Local Government are urged to strengthen sectoral coordination and recruitment of personnel to fully realize the goal of the policy.

Although the policy has put clear emphasis on promoting research through developing Beekeeping Research Master Plan, Beekeeping Research Fund (BRF) establishment, manpower, equipment and facilities and Njiro Wildlife Research

Centre (NWRC) autonomy, progress has relatively been slow. For example, delayed development of Beekeeping Research Master Plan is a result of insufficient funding despite developing beekeeping research priority areas in 2004 that were later incorporated into the Tanzania Wildlife Research Agenda of 2012. Also, data show that out of the required 50 staff, only 7 (3 with PhD, 1 with MSc, 2 with BSc and 1 with Diploma) are available at NWRC in 2019. In terms of facilities, there is un-furnished beekeeping laboratory built in 2018 and 1 Land rover at NWRC. By 2019, research activities on beekeeping are housed by TAWIRI, because the NWRC has not been transformed into the intended autonomous institution, Njiro Beekeeping Research Centre (NBRC).

NBP, 1998 directed strengthening of beekeeping training in order to ensure adequate professional, technical and specialist staff in the sector. Tabora BTI is a sole college offering certificate and diploma courses with an annual average output of 31 and 20 graduates at certificate and diploma levels, respectively from 2011/12 to 2016/17 while UDSM has an average output of 37 first degree graduates from 2018-2019. Considering the deficit of 409 staff required to fill the gap in 15 regions in the country (PO-RALG, 2019), it will take 5 years to carter for the demand. It is obviously that, this pace of supply from training institutions is inadequate. This inadequacy is also partly attributed to the slow pace of establishing another beekeeping professional degree program at Sokoine University of Agriculture (SUA) by 2010 as stipulated in the National Beekeeping Programme of 2001 to 2010 as a way to strengthen supply of required staff categories in the sector.

A notable progress on manpower development, planning and curricula improvement has been reported. For example, a total of 5 specialist and 1 technical personnel engaged with BTI have been capacitated through attending on job training from 2010 to 2017. This was in accordance with the training programme following the training needs assessment conducted in 2017. Moreover, the course curricula were reviewed in 2010 and 2015. However, a serious deficiency of 12 out of 17 tutors required has been reported to the governing authority, but unfortunately it has not yet yielded the results hence affecting performance in training. This situation calls for immediate attention.

There has been an increase in beekeeping extension services, which has caused increased awareness and capacity among stakeholders on sustainable management of beekeeping resources. This is evidenced, for example by the presence of 42 beekeeping extension officers, and formulation of 317 Beekeepers groups, 3 Cooperatives and 1 association in central zone. Of all formulated groups and Cooperatives, 91% and 33%, respectively access beekeeping extension services. Regrettably, no extension services are being offered to the association. The formulation of Beekeeping groups, which was not stipulated in the NBP, 1998 is a result of innovative extension services, a compliment to implementers. However, the status of extension services displayed by the central zone is specific and does not necessarily depict the situation elsewhere in the country. National Beehive Sitting and World Bee Day are among activities organized to share knowledge and experiences as part of extension service.

Although there seem to be good progress in extension services, experience from central zone shows that extension messages being delivered vary among groups. This view is exemplified by absence of bee products' market information and value addition packages among beekeeping stakeholders where only 6% and 25% of existing groups have received extension messages on value addition and marketing, respectively. This suggests that the extension services offered are biased towards certain extension messages while leaving others e.g. value addition and marketing. Mitigation of the prevailing situation calls for harmonization of extension messages through development of standard extension guidelines and sharing of research-based market information using formal information systems. Also, establishment of collection centres where they do not exist and revamping them where they are dormant are necessary to ensure effective delivery of extension services, sharing of market information on bee products and other associated benefits.

There is indication of cooperation between beekeeping sector and NGOs in the country. For example, co-operation with agreements exists between Tanzania Beekeeping Development Organisation (TABEDO), Tanzania Honey Council (THC) and Disaster Awareness and Preparedness Organisation in Tanzania (DAPOTA) on one hand, and TFS and/or FBD on the other. However, co-operation needs to be further strengthened between beekeeping sector, NGOs and other stakeholders. Moreover, TABEDO who serves as a platform for all stakeholders is not doing

enough to bring together beekeeping stakeholders for sectoral development. Therefore, FBD needs to relook into this.

Functional innovative sectoral funding mechanisms have been developed whereby one trust-Eastern Arc Mountains Conservation Endowment Fund (EAMCEF) and one public sector funding body-Tanzania Forest Fund (TaFF) have been supporting beekeeping sector development since 2001 and 2011, respectively. For example, through the support of TaFF, a total of 236 beekeeping projects in 484 villages across the country from 2012 to 2018 have been executed. The funding covered 15,975 hives, 5 mini-honey processing plants and general protective gears and packaging materials among others. The existence of the two funds has served as sources of funding as a result of innovation by FBD. However, the two funds do not have sufficient financial resources to meet a wide range of requirements from the sector. Moreover, TANAPA has supported 1,687 beehives and other beekeeping equipment to beekeepers whereas Ngorongoro Conservation Area Authority (NCAA) has supported 545 beehives. In addition, more than 22,232 beehives have been distributed to local communities by TFS.

Several consultative meetings between beekeeping sector and development partners have successfully taken place between 1998 and 2019. Among results of the meetings are projects and programmes supported by developing partners in different regions through international bilateral agreements. For example, with Norway through Norwegian Agency for Development Cooperation (NORAD), beekeeping development projects in 5 districts (Kibondo, Handeni, Kondoa, Manyoni and Uyui-Tabora) were implemented from 1998 to 2006. The government of Finland established National Forestry and Beekeeping Programme (NFBP II) and facilitated its implementation in Lindi, Mtwara, Kigoma, Ruvuma, Morogoro, Kagera and Tanga Regions from 2011 to 2016. In addition, through these agreements, the Belgium Government funded beekeeping project in Kigoma Region from 2012 to 2016. Also, other agreements were made with the international NGOs including ITO, the World Wide Fund for Nature (WWF), Africare, World Vision, Heifer International, Farm Africa, Association for the Development of Protected Areas (ADAP) and Netherlands International Development Organization (SNV) to support beekeeping activities including promotion of marketing of bee products in the country. Tanzania is now a member of Apitrade and Apimondia. As result, Tanzania organized the first

Apimodia symposium in Africa that attracted experts, beekeepers and investors to discuss beekeeping issues in Arusha in 2014. Experience shows that, there has been a remarkable improvement on use of best beekeeping practices, increase in quality of bee products, conservation of bee resources, marketing, increased community involvement in beekeeping and consumer awareness. Therefore, these efforts should be replicated in collaboration with development partners to other unreached areas of the country through existing or new projects while observing project overlap.

So far, foreign investment in beekeeping sector is still very low in the country. During the evaluation exercise, some investors (e.g. Honey King processing industry-Kibaha and Upendo honey processing plant-Kigoma) had invested in honey and beeswax processing industries since 1998. Of the two industries, only Upendo was operating by 2019. This underperformance needs to be addressed while taking into account diversification of investments for development of beekeeping sector in line with the Five-Year Development Plan Two (FYDP II) and National Vision 2025, both of which seek to nurture industrialization for economic transformation from low to middle income country.

3.2 KEY MANAGEMENT CHALLENGES

The main management challenges towards implementation of the NBP, 1998 are:

- i) Lack of implementation strategy and associated tools (section 3.1.6 paragraph 8 of this report);
- ii) Absence of system(s) to collect, store, distribute and manage data to support informed decision making in beekeeping sector (affecting Policy Statement 23; section 3.1.6, paragraph 2 of this report) hence negatively impacting planning and operations;
- iii) Absence of apiary management and extension guidelines have caused persistence of low production of bee products e.g. honey and beeswax to meet internal and external market demands (affecting Policy Statement 5, 6, 11 and 37);

- iv) Inadequate local and foreign large-scale investments along beekeeping value chain have slowed down the growth of the industry (affecting Policy Statement 8, 9, 11, 12 and 44);
- v) Low employment rate in beekeeping sector has resulted to serious shortage of technical, professional and specialist staff (affecting Policy Statement 35);
- vi) Weak sectoral coordination and information sharing mechanisms have caused fragmentation in operations of beekeeping activities (affecting Policy Statements e.g. 18, 20, 23, 31 and 41);
- vii) Low sectoral revenue generation is a bottleneck to the establishment of beekeeping research and development funds (affecting Policy Statement 42). Therefore, it is advised that the legal framework of TaFF be amended to accommodate beekeeping activities on equitable basis as forestry;
- viii) Environmental degradation and increased application of agricultural pesticides have to some extent reduced quality and quantity of bee resources and population of honey bee colonies; and
- ix) None existence of National Beekeeping Research Centre (NBRC) as a well-functioning (e.g. furnishing beekeeping laboratory) autonomous institution guided by Research Master Plan among others has undeniably slowed down beekeeping research and development in the country.

3.3 POLICY ISSUES

It is evident that the government has accomplished most of its promises stipulated in the policy. There is however areas for improvement as outlined in the next section (3.3.1-3.3.4):

3.3.1 Conceptual framing weaknesses

Although the NBP, 1998 has demonstrated a positive impact into the sector through a number of ways including environmental conservation and socio-economic development, a few examples are presented herein to highlight on the problem with conceptual framing of the Policy:

- i) The current Policy has no Mission, Vision and Monitoring and Evaluation sections, which undermine performance of the sector by not indicating where the country wants the sector to focus on long term basis;
- ii) Policy Statement no. 39 (***the government will encourage establishment of beekeepers' cooperative and associations and will provide them with extension packages, research and market information***) – **INADEQUATE SUPPORT OF BEEKEEPING GROUPS DESPITE THEIR PRESENCE**; and
- iii) Policy Statement no. 28 (development and management of ***indigenous honey*** bees will be given first priority) refers to indigenous bees while **NO DEFINITION FOR “INDIGENOUS BEES” IN THE POLICY.**

3.3.2 Emerging issues

Emerging issues are matters that have not been influential or important in the past, but might presently be influencing the beekeeping sector; hence need to be incorporated in the Policy or any other implementation frameworks including strategies:

- i) Climate change: Increasingly, the impact of climate change is realized in different sectors. However, beekeeping sector is likely to be negatively impacted more because it depends strongly on environmental resources, which are already degraded and vulnerable to climate change. Climate change is affecting vegetation in different aspects including cover and flowering pattern, water flow, temperature, rainfall distribution; all these negatively affect bees and bees' productivity. Awareness on adaptation and mitigation measures against climate change is still limited and needs to be improved to reduce effects on beekeeping sector and environment;
- ii) Fraud of bee products: Fraud is a criminal global concern that is committed purposely to obtain an economic gain by selling a product that is not up to standards. To safe guard local and international markets, control of quality of bee products is necessary;

- iii) **Bees' health:** Pests and diseases reduce strength of bee colonies and hence its productivity.
- iv) **Colony collapse disorder (CCD):** Is a phenomenon whereby majority of worker bees in a colony disappear and leave behind a queen, plenty of food and a few nurse bees to care for the remaining immature bees and the queen. It causes significant economic losses and unfortunately its cause is not yet known.
- v) **Apitherapy:-** Honey bee products, including honey, pollen, propolis, royal jelly and bee venom are claimed to have health benefits, but currently there are no research-based information available in the country.

3.3.3 Crosscutting issues

Cross-cutting issues are important matters that affect all aspects and need special attention. Apparently, the current NBP, 1998 does not consider cross cutting issues like gender, HIV/AIDS, environment and good governance. These need to be integrated into all aspects from planning through to impact assessment of the Policy.

- i) **Gender:** It is generally accepted that there has been a decline in gender inequalities and disparities, but problems that prevent women from realizing full benefits of beekeeping prevail to date. As result, traditional beekeeping is dominated by men while women rarely participate. Women are mostly involved in modern beekeeping, value addition activities and marketing of bee products;
- ii) **HIV/AIDS:** Despite appreciable progress in fighting against HIV/AIDS (which reduce manpower in the sector), there are still new infections and risks of spreading that call for more efforts to reduce the disease and its impacts;
- iii) **Environment:** Environment supports life and provides good opportunity for beekeeping activities. However, Tanzania's environment is threatened by human development activities that not only affect human being, but also bees, bee fodder and bee products. The environmental threats need to be mitigated to the wellbeing of beekeeping sector and the country as a whole;

iv) Governance: Good governance is necessary for the welfare of stakeholders and beekeeping sector along the value chain to ensure accountability, transparency, rule of law and fair participation.

3.3.4 Conflicting issues

- i) While use of pesticide is being promoted to reduce crop losses hence ensure food and nutritional security, safety of pollinators particularly honey bees, which also contribute to the same is not given attention in the Agriculture Policy, 2013. For perpetuation of pollinators and enhanced food and nutritional security, use of Integrated Pest Management (IPM) is vital. Use of pollination services and IPM is already recognized in the NBP, 1998 (Objective 3 Policy Statement 13; Objective 4 Policy Statement 17; Objective 5 Policy Statement 21). Thus, there is a need for harmonization of these conflicting issues between the sectors;
- ii) Even though NBP, 1998 considers exploring collaboration with the wildlife authorities of possibility to carry out beekeeping in national parks (Objective 4 Policy Statement 19), apparently the legislation for Tanzania National Parks only allows photographic tourism and research activities. This suggests that more work need to be done in order to utilize the potential there-in;
- iii) Beekeeping by local communities and groups around protected areas is encouraged in the NBP, 1998 (Objective 4 Policy Statement 18), but currently the Wildlife Policy, 2007 does not recognize the activity though beekeeping is still practised in some reserves as outlined in the general management plan of the respective reserve. This being the case, it is now imperative that wildlife authority strengthens modalities to accommodate beekeeping in Game Reserves and Game Controlled Areas.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis carried out on all gathered data and information, the Policy had positive impact in the beekeeping sector. For example, one key area of performance is legal frameworks through which Beekeeping Act, 2002; Regulations, 2005; National Beekeeping Programme; 2001-2010 and Guidelines on Quality Control, 2007 have been brought forth. Another area is improved conservation of bee resources through increased number of bee reserves and apiaries parallel with the increase in number and groups of beekeepers. The number of bee products industries engaging in processing, packaging and labelling for value addition has also increased. As a result of extension services and quality control mechanisms, the quality of bee products including honey and beeswax has improved as evidenced by the presence of TBS certified companies and acceptance of Tanzania honey into the international market including European Union.

Considering such achievements, the Policy has overall been implemented **SATISFACTORILY**. It is therefore **RECOMMENDED** that the National Beekeeping Policy Implementation Strategy (NBPIIS), which is non-existent at the moment be developed for wider impact of the sector in the country.

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LIST OF APPENDICES

Appendix I: Questionnaire for Forestry and Beekeeping Division (FBD)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective I: Ensured sustainable existence of honey bees by maintaining and effectively managing adequate area of bee reserves

Policy statement (I): *The government (GoT) promised to establish and manage bee reserves in order to ensure sustainable existence of indigenous honey bees stinging and stingless. Also, promised to enter into management agreement with organized local communities or other organizations of people living adjacent to the Bee Reserve.*

- I. a) What is the number, name, location and size of **central government** bee reserves that have been established from 1998 to 2018? Indicate for each year.
- b) What is the number, name, location and size of **village** bee reserves established from 1998 to 2018? Indicate for each year.
- c) What is the number, name, location and size of **district** bee reserves established from 1998 to 2018? Indicate for each year.
- d) Outline the **joint management agreements** on bee reserves that have been entered between GoT/ specialized agents and other parties from 1998 to 2018

2. What is the number, name, location and size of **Private bee reserves** that have been established during the implementation of the policy from 1998 to 2018? Indicate for each year.

Objective 2: Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same.

Policy statement (4): *Promised that in order to enable effective extension, central government and local government will encourage executive agencies, NGOs and private sector to establish and manage apiaries*

- 1) What is the number, name, location and size of apiaries that have been established for demonstration and/or production purposes by **executive agency** from 1998 to 2018? Indicate for each year.
- 2) What is the number, name, location and size of apiaries that have been established by **private sector** for demonstration and/or production purposes in Tanzania from 1998 to 2018? Indicate for each year.
- 3) What is the number, name, location and size of apiaries that have been established by **NGOs** for demonstration and/or production purposes from 1998 to 2018? Indicate for each year.

Policy statement (5) *promised that establishment and management of private apiaries will be encouraged in order to ensure sustainable supply of high quality bee products and pollination services*

- 1) Are there guidelines for bee products quality control? If yes list them and indicate the year issued for use.
- 2) What is the numbers and location of colonies managed by private sector for pollination services?

Policy statement (7): *promises that extension packages whose aims and objectives are to make beekeeping a simple and attractive economic venture will be designed and rendered to the women and the youth to enable their effective participation in carrying out beekeeping activities*

- 1) What is the number, name and location of youth and women groups (also state number of members in each group) participating in Beekeeping activities from 1998 to 2018? Indicate each year.
- 2) Are there any beekeeping extension packages for women and youth? YES/NO. If No, why?
- 3) What is number, name and location of youth and women groups that have been trained on Beekeeping from 1998 to 2018?

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (8) *promised to ascertain the availability of appropriate beekeeping equipment through encourage executive agencies, NGOs and private sector to carry out research and development and effectively disseminate information and equipment to beekeepers.*

- 1) What is the number, name and location of private suppliers of Beekeeping equipment and type of equipment supplied from 1998-2018? Indicate for each year.
- 2) What is the number, title, institution and specific location of Research on appropriate beekeeping equipment conducted from 1998-2018? Indicate for each year.
- 3) What is the number and location of Beekeepers (individuals/ groups) using appropriate equipment from 1998-2018, List the equipment.

Policy statement (9) *promised the provision of credit facilities will be encouraged so as to attract investors in the production of beekeeping equipment.*

- 1) What is the number of investors on Beekeeping equipment production from 1998-2018? Indicate for each year.
- 2) What is the number, name and location of industries/workshops producing beekeeping equipment from 1998-2018? Indicate for each year.
- 3) What is the number, name and location of credit facilities available to support beekeeping equipment production from 1998-2018? Indicate for each year.

Policy statement (10) promised to design and popularize an integrated approach involving different users of tree species which produce raw materials for making hives to enable sustainable management of resources. Promises also to ascertain through research and development alternative materials for making cheaper and effective hives. Promises to established formal cross-sectoral coordinating mechanism between Beekeeping and Forestry authorities in order to improve coordination of activities.

- 1) Is there any integrated approach involving different users of tree species which produce raw materials for making hives to enable sustainable management of resources (e.g. timber, firewood and making hive from the same tree).
- 2) What is the cheap alternative materials other than trees that are in use for hive making from 1998 to 2018?
- 3) Is there any formal agreement between Beekeeping and Forestry authorities to guide coordination between different users of tree resources from 1998 to 2018?

Policy statement (11) promised to encourage the establishment and development of honey-based industries and production of honey products. Research and development on other uses of honey will be promoted.

- 1) What is the number, name and specific location of honey based industries (functioning/non functioning) that have been built from 1998 to 2018?

Policy statement (12) promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.

- 1) What is the number, name and specific location of beeswax-based industries functioning/non functioning) that have been developed from 1998 to 2018?

Policy statement (14) promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania

Policy statement (15) *promised to encourage the private sector and community in general to promote beekeeping eco-tourism and establish Legal framework for coordination with Tourism sector.*

- 1) Is there any established legal framework to coordinate beekeeping eco-tourism (i.e. Api-eco-tourism) with Tourism sector?

Objective 4: Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products - based industrial development and trade.

Policy Statement (16) *promised to encourage individual beekeepers, beekeepers' associations and cooperatives to establish and manage apiaries in public land. Also promised that appropriate beekeeping equipment and management methods will be used to ascertain sustainable management and utilization of bee and bee fodder resources.*

- 1) What is the number and location of apiaries owned by individual beekeepers, beekeepers' associations and cooperatives that have been established on **public land** from 1998 to 2018?

Policy Statement (18) *promised to encourage organized local communities, individual beekeepers, NGOs and executive agencies to establish and manage apiaries in **game reserves**.*

Also promises Joint management agreements including benefit-sharing mechanisms and incentives may be made between the government (Wildlife Division) and the local beekeepers (organized productive groups).

Formal cross-sectoral coordination mechanism between Beekeeping and Wildlife authorities will be established in order to improve coordination of activities under approved management plan of specific Game Reserve

- 1) Is there any formal cross-sectoral agreement between Beekeeping and Wildlife authorities to facilitate beekeeping in game reserves from 1998 to 2018? If no, why?

Policy Statement (19) *promised to explore the possibilities of carrying out Beekeeping in National park in collaboration with Wildlife authorities.*

- 1) What is the number of formal meetings/fora that have been organized between Beekeeping and National park authorities to explore the possibilities by 2018?
- 1) If yes did you reach any agreement?

Policy Statement (20) *promised to encourage **non government parties** to establish and management of apiaries in Forest Reserves and plantations by other parties will be encouraged through joint forest management agreements and formal coordination mechanism?*

- 1) How many apiaries were established by non government parties and their location in Forest Reserves / plantations from 1998 to 2018?

Objective 5: Ensured ecosystem stability by practicing integrated pest management and carrying out environmental impact assessment for investments inside or around Bee Reserves and Apiaries.

Policy Statement (21) promised that different measures e.g. Integrated Pest Management (IPM) and formal coordination between Beekeeping authorities and Pesticide will be established to ensure coordination of activities

- 1) Is there any formal cross-sectoral coordination mechanism (e.g. Forum) established between FBD and pesticide application authorities (TPRI) from 1998 to 2018? If no why?

Policy statement (22) *promised the use of EIA for investments with potential environmental impacts to bees or their fodder inside or around bee reserves and apiaries.*

- 1) What is the number, name and location of investment projects carried out in on near bee reserves or apiaries from 1998 to 2018?
- 2) List projects under which EIA were done

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (23) *promised to strengthen the policy analysis and planning capacity for the beekeeping sector within FBD Administration placing emphasis on strategic planning and coordination.*

- 1) What is the number of Beekeeping staff at FBD trained in policy analysis, Strategic planning and coordination from 1998 to 2018?
- 2) Are there any beekeeping policy implementation strategy, programmes and projects from 1998 to 2018?

Policy Statement (24) *promised the formulation of Beekeeping legislation that is harmonized with other sectoral legislations*

- 1) Are there any beekeeping Act, Regulations, guidelines and by-laws formulated and in use from 1998 to 2018? If yes, mention them

Policy Statement (25) *promised establishment and review of Royalties and other fees for bee products and services*

- 1) Are there bee products based royalties and fee structure from 1998 to 2018? If yes, are they functioning?
- 2) Has there been any review of bee products based royalties and fee structure? If yes, When?

Policy Statement (26) *promised that pricing of bee products and services from private and government apiaries will be based on free market values.*

- 1) Is there any pricing system based on free market values of bee products and services from 1998 to 2018?

Policy Statement (27): *Promised Importation of bees, bee products, and used bee equipment will be controlled in order to prevent possible importation of bee diseases and parasites which would kill indigenous honeybees.*

- 1) Did the legislation to control importation of bees, bee products and used equipment exist from 1998 to 2018?
- 2) Has there been any breach of the legislation in relation to importation of bees, bee products or used equipment from outside the country from 1998 to 2018? If yes, mention the events of offences.

Policy Statement (29) *promised to develop national criteria and indicators for sustainable management of beekeeping resources. Similarly, promised development of management guidelines for stingless and stinging bees in different apiary sites (Farmland, Reserved and unreserved Areas). Criteria and indicators, and management plans for bee reserves and apiaries accordingly.*

- 1) Are there national criteria for sustainable management of beekeeping resources since 1998? If yes, when were they formulated?
- 2) Are there national indicators for sustainable management of beekeeping resources since 1998? If yes, when were they formulated?
- 3) Are there management guidelines for the different apiary sites (Farmland, Reserved and unreserved Areas) for both stingless and stinging bees since 1998? If yes, when were they formulated?
- 4) Are there management plans for Bee Reserves and apiaries since 1998? If yes, when were they formulated?

Policy Statement (30) *promised that the role of the beekeeping administration will focus on policy development, regulation, monitoring and facilitation, and decentralization of responsibilities will be promoted. Specialist technical and training backup services as well as information dissemination and sharing will be strengthened.*

- 1) Was the monitoring and evaluation plan for National Beekeeping Policy formulated? If yes, when?

- 2) Was monitoring and evaluation plan implemented? If yes, attach the report. If not, what was the alternative procedure?
- 3) Has there been facilitation budget to Region and District for beekeeping activities from 1998 to 2018? If yes, what were the sources and amount for each year?
- 4) Does a decentralized structure exist for Beekeeping sector? If yes, what is the current structure?
- 5) Is there any beekeeping information management system? If yes, when was it developed? Is it operational?
- 6) How many specialist and technical staff from central government and their location have attended on job training backup services from 1998 to 2018?

Policy Statement (31) *promised to strengthen the capacity of the local governments to administer and manage beekeeping resources (bees, bee fodder, personnel and materials) and established and enhance a coordination mechanism between the local and central governments.*

- 1) Is there any established coordination mechanism for beekeeping activities between local and central governments (e.g. meeting, MoU, reports) from 1998 to 2018? If yes, attach evidence

Policy Statement (32) *promised to promote and strengthened Beekeeping research and development as the basis for sustainable development and management of the beekeeping sector, and through cost sharing provide financial resources for problem - oriented research and development programmes and establish research funds.*

- 1) Has there been Beekeeping research master plan between 1998 and 2018? If yes, when was it developed?
- 2) Is Njiro Wildlife Research Center provided with enough manpower to carry out beekeeping based research? Indicate available vs required staff.
- 3) Is Njiro Wildlife Research Centre equipped with key facilities to carry out beekeeping oriented research and development? Indicate available vs required facilities.

- 4) Has there been any beekeeping research budget allocation from the central government to Njiro Wildlife Research Centre from 1998 to 2019? If no, what is other sources of funds for beekeeping research?
- 5) How many beekeeping research deliverables (e.g. reports, publications and journals) were produced each year from 1998 to 2019?
- 6) Has there been any system of cost sharing mechanism to support beekeeping based research from 1998 to 2019? If yes, indicate number of research carried out.
- 7) Has beekeeping research fund been established? If no, why?

Policy Statement (33) *promised to establish appropriate legal framework for cooperation and coordination of research activities between Njiro Beekeeping Research Centre (NBRC) and other related research institutions. Also that in order to strengthen beekeeping research in Tanzania the current administrative linkage between SWRI and NBRC which was formed by Act No. 4 of 1980 which established SWRI will be revised. Beekeeping authority will promote formal arrangement for cooperation, coordination and collaboration of Njiro with other research institutions.*

- 1) Has Njiro Beekeeping Research Centre been given autonomy as a way of strengthening beekeeping research in Tanzania? If no, why?
- 2) Has appropriate legal framework for cooperation and coordination of research activities between Njiro Beekeeping Research Centre (NBRC) and other related research institutions established? If no, why?

Policy Statement (34) *promised to continuously carry out reviews to ensure research priorities are always on demand - driven research principle capturing the views of stakeholders*

- 1) How many times has beekeeping research priorities been revised based on users demand between 1998 and 2019?

Policy Statement (35) *promised to strengthen beekeeping training in order to ensure adequate professional, technical and specialist staff in the sector. Specialist training will also be promoted.*

- 1) What is the number of Training Institutions that offer Beekeeping technical and professional programs?
- 2) What is the number of Beekeeping professionals available vs requirement?
- 3) What is the number of Beekeeping technical staff available vs requirement?

Policy statement (36) *promised to facilitate manpower development, regular demand-driven manpower needs assessment, curricula review and training planning will be conducted.*

- 1) Is Beekeeping authority having Training plan/programme for its employees?
- 2) Has there been any demand-driven manpower needs assessment since 1998?

Policy statement (37) *promised to ensure increased awareness and skills amongst the people on sustainable management of beekeeping resources, the capability of the beekeeping extension services will be strengthened.*

- 1) What is the number of beekeeping extension officers in your area of operation from 1998 to 2018? Indicate for each year

Policy statement (38) *promised, Beekeeping related extension messages delivered by different natural resources management sectors and other related sectors will be harmonized through integrated planning, research and training.*

- 1) Is there any harmonized sectoral Beekeeping extension guideline? If no, why?
- 2) Is there any harmonized sectoral Beekeeping extension training manual? If no state why

Policy statement (40) *promised to ensure effective marketing system, quality control and inspection mechanism will be strengthened, and traders of bee products will be encouraged by providing them with reliable services on quality control, inspection and market information.*

- 1) Does traceability system of bee products exist and in use? If no, why?
- 2) Is there quality control inspection guidelines? If no, why?

Policy statement (41) *promised the Coordination and cooperation between the beekeeping sector and NGOs will be promoted.*

- 1) Have there been any fora between Beekeeping sector and NGOs from 1998 to 2018?
- 2) Have there been any MoUs or any agreements that have been established between Beekeeping authority and NGOs from 1998 to 2018? If yes, list them

Policy statement (42) *promised, new and innovative sectoral financing mechanisms will be developed and directed to the key functions and stakeholders of the beekeeping sector*

- 1) Is there any **specific** beekeeping fund? if yes indicate when it was established: If no, explain why?
- 2) Are there any **sectoral** beekeeping supportive funds? if yes list them and indicate when they were established
- 3) Are you aware of any Programmes/Projects financed by beekeeping sectoral funds? If yes list them and indicate location

Policy statement (43) *promised consultation with development partners in the context of overall sectoral coordination of projects or programmes will be strengthened in order to avoid parallel and overlapping programmes*

- 1) What is the number of consultative meetings done with development partners from 1998 to 2018?
- 2) Where are the programmes/projects emanating from number 1 above located?

Policy statement (44) *promised foreign investors will be encouraged to invest in development programmes and projects which local beekeepers and traders cannot afford.*

- 1) Are there foreign investments in beekeeping sector from 1998 to 2018? If yes indicate when they were established, type (e.g. industry, apiary, processing plant) and name of investment and where located

Appendix II: Questionnaire for Tanzania Forest Services (TFS) Agency

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 1: Ensured sustainable existence of honey bees by maintaining and effectively managing adequate area of bee reserves

Policy statement (1): *The government (GoT) promised to establish and manage bee reserves in order to ensure sustainable existence of indigenous honey bees stinging and stingless. Also, promised to enter into management agreement with organized local communities or other organizations of people living adjacent to the Bee Reserve.*

1. What is the number, name, location and size of **central government** bee reserves that have been established from 1998 to 2018? Indicate for each year.
2. What is the number of **joint management agreements** on bee reserves that have been entered between GoT/ specialized agents and other parties from 1998 to 2018? List them
3. What is the number, name, location and size of **Private bee reserves** that have been established during the implementation of the policy from 1998 to 2018? Indicate for each year.

Objective 2: Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same

Policy statement (4): *promised that in order to enable effective extension central government and local government will encourage executive agencies, NGOs and private sector to establish and manage apiaries*

- 1) What is the number, name, location and size of apiaries that have been established for demonstration and/or production purposes by executive agency from 1998 to 2018? Indicate for each year.
- 2) What is the number, name, location and size of apiaries that have been established by private sector for demonstration and/or production purposes in Tanzania from 1998 to 2018? Indicate for each year.
- 3) What is the number, name, location and size of apiaries that have been established by NGOs for demonstration and/or production purposes from 1998 to 2018? Indicate for each year.

Policy statement (5) *promised that establishment and management of private apiaries will be encouraged in order to ensure sustainable supply of high quality bee products and pollination services.*

- 1) What is the number and location of colonies managed by private sector for pollination services?
- 2) What is the number, name, location of producers, processors and traders that their products have been certified by TBS/TFDA?

Policy statement (7): *promised that extension packages whose aims and objectives are to make beekeeping a simple and attractive economic venture will be designed and rendered to the women and the youth to enable their effective participation in carrying out beekeeping activities*

- 1) What is the number, name and location of youth and women groups (also state number of members in each group) participating in Beekeeping activities from 1998 to 2018? Indicate for each year
- 2) Are there any beekeeping extension packages for women and youth? YES/ NO, If no why?
- 3) What is number, name and location of youth and women groups that have been trained on Beekeeping from 1998 to 2018?

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (8) *promised to ascertain the availability of appropriate beekeeping equipment through encourage executive agencies, NGOs and private sector to carry out research and development and effectively disseminate information and equipment to beekeepers.*

- 1) What is the number, title, institution and specific location of Research on appropriate beekeeping equipment conducted from 1998-2018? Indicate for each year
- 2) What is the number and location of Beekeepers (individuals/ groups) using appropriate equipment from 1998-2018, List the equipment

Policy statement 9 *promised the provision of credit facilities will be encouraged so as to attract investors in the production of beekeeping equipment.*

- 1) What is the number of investors on Beekeeping equipment production from 1998-2018? Indicate for each year.
- 2) What is the number, name and location of industries/workshop producing beekeeping equipment from 1998-2018? Indicate for each year.

Policy statement (10) *promised to design and popularize an integrated approach involving different users of tree species which produce raw materials for making hives to enable sustainable management of resources. Promises also to ascertain through research and development alternative materials for making cheaper and effective hives. Promises to established formal cross-sectoral coordinating mechanism between Beekeeping and Forestry authorities in order to improve coordination of activities.*

- 1) Is there any integrated approach involving different users of tree species which produce raw materials for making hives to enable sustainable management of resources (e.g. timber, firewood and making hive from the same tree).

- 2) What is the alternative cheap materials other than trees that are in use for hive making from 1998 to 2018?
- 3) Is there any formal agreement between Beekeeping and Forestry authorities to guide coordination between different users of tree resources from 1998 to 2018?

Policy statement (I1) *promised to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.*

- 1) What is the number, name and location of honey based industries (functioning/non functioning) that have been built from 1998 to 2018?

Policy statement (I2) *promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.*

- 1) What is the number, name and location of beeswax-based industries functioning/non functioning) that have been developed from 1998 to 2018?

Policy Statement (I3) *promised to improve crop yields through encouragement of Crop producers to use bees as pollinators*

- 1) What is the number, name and location of crop producers using bees as pollinators from 1998 to 2018?

Policy statement (I4) *promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products*

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania
- 2) List all value added bee based products known to be produced from 1998 to 2018 in Tanzania

Policy statement (15) *promised to encourage the private sector and community in general to promote beekeeping eco-tourism and establish Legal framework for coordination with Tourism sector.*

- 1) What is the number, name and location of beekeeping based eco-tourism sites from 1998 to 2018 in Tanzania
- 2) What is the number and country of origin for beekeeping eco-tourists that have visited Tanzania from 1998 to 2018?

Objective 4: Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products - based industrial development and trade.

Policy Statement (16) *promised to encourage individual beekeepers, beekeepers' associations and cooperatives to establish and manage apiaries in public land. Also promise that appropriate beekeeping equipment and management methods will be used to ascertain sustainable management and utilization of bee and bee fodder resources.*

- 1) What is the number and location of apiaries owned by individual beekeepers, beekeepers' associations and cooperatives that have been established on public land from 1998 to 2018?

Policy Statement (20) *promised to encourage **non government parties** to establish and management of apiaries in Forest Reserves and plantations by other parties will be encouraged through joint forest management agreements and formal coordination mechanism?*

- 1) How many apiaries were established and their location in Forest Reserves / plantations from 1998 to 2018?
- 2) How many joint forest management agreements are there between Forestry authorities and users of forest reserve or plantations from 1998 to 2018? List the sites and the users

Objective 5: Ensured ecosystem stability by practicing integrated pest management and carrying out environmental impact assessment for investments inside or around Bee Reserves and Apiaries.

Policy statement (22) promised the use of EIA for investments with potential environmental impacts to bees or their fodder inside or around bee reserves and apiaries.

- 1) What is the number, name and location of investment projects carried out in or near bee reserves or apiaries from 1998 to 2018?
- 2) List the projects under which EIA were done

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (23) *promised to strengthen the policy analysis and planning capacity for the beekeeping sector within FBD Administration placing emphasis on strategic planning and coordination.*

- 1) What is the number of FBD Beekeeping staff trained in policy analysis, Strategic planning and coordination from 1998 to 2018?

Policy Statement (25) *promised establishment and review of Royalties and other fees for bee products and services*

- 1) Are there bee product-based royalties and fee structure from 1998 to 2018? If yes, are they functioning?
- 2) Has there been any review of bee product-based royalties and fee structure? If yes, When?

Policy Statement (26) *promised that pricing of bee products and services from private and government apiaries will be based on free market values.*

- 1) Is there any pricing system based on free market values of bee products and services from 1998 to 2018?

Policy Statement (27) *promised importation of bees, bee products, and used bee equipment will be controlled in order to prevent possible importation of bee diseases and parasites which would kill indigenous honeybees.*

- 1) Does a legislation to control importation of bees, bee products and used equipment exist from 1998 to 2018?

- 2) Has there been any breach of the legislation in relation to importation of bees, bee products or used equipment from outside the country from 1998 to 2018? If yes, mention the events of offences.

Policy Statement (29) *promised to develop national criteria and indicators for sustainable management of beekeeping resources. Similarly, promised development of management guidelines for stingless and stinging bees in different apiary sites (Farmland, Reserved and unreserved Areas). Criteria and indicators, and management plans for bee reserves and apiaries accordingly.*

- 1) Are there national criteria for sustainable management of beekeeping resources since 1998? If yes, when were they formulated?
- 2) Are there national indicators for sustainable management of beekeeping resources since 1998? If yes, when were they formulated?
- 3) Are there management guidelines for the different apiary sites (Farmland, Reserved and unreserved Areas) for both stingless and stinging bees since 1998? If yes, when were they formulated?
- 4) Are there management plans for Bee Reserves and apiaries since 1998? If yes, when were they formulated?

Policy Statement (30) *promised that the role of the beekeeping administration will focus on policy development, regulation, monitoring and facilitation, and decentralization of responsibilities will be promoted. Specialist technical and training backup services as well as information dissemination and sharing will be strengthened.*

- 1) Is there facilitation budget to Region and District for beekeeping activities from 1998 to 2018? If yes, what were the sources and amount for each year?
- 2) How many beekeeping specialist and technical staff from central government and their location have attended on job training from 1998 to 2018?

Policy Statement (35) *promised to strengthen beekeeping training in order to ensure adequate professional, technical and specialist staff in the sector. Will also promote Specialist training.*

- 1) What is the number of Beekeeping professionals vs requirement?
- 2) What is the number of Beekeeping technical staff vs requirement?

Policy statement (36) *promised to facilitate manpower development, regular demand-driven manpower needs assessment, curricula review and training planning will be conducted.*

- 1) Is Beekeeping authority having Training plan/programme for its employees?

Policy statement (37): *promised to ensure increased awareness and skills amongst the people on sustainable management of beekeeping resources, the capability of the beekeeping extension services will be strengthened.*

- 1) What is the number of beekeeping extension officers in your area of operation from 1998 to 2019? Indicate for each year.
- 2) What is the number of beekeepers/beekeeping groups/beekeeping Cooperatives established and accessing extension services from 1998 to 2019?

Policy statement (39): *promised the government will encourage the establishment of beekeepers' cooperatives and associations, and will provide them with extension packages, research and market information.*

- 1) What is the number, name and location of Beekeeping groups formed and functioning from 1998 to 2019? Indicate for each year
- 2) What is the number, name and location of Beekeeping Cooperative Societies formed and functioning from 1998 to 2019? Indicate for each year
- 3) What is the number, name and location of Beekeeping Associations formed and functioning?
- 4) Is there a system in place to provide market information to groups/ cooperatives / associations?

Policy statement (40) *promised to ensure effective marketing system, quality control and inspection mechanism will be strengthened, and traders of bee products will be*

encouraged by providing them with reliable services on quality control, inspection and market information.

- 1) Does traceability system of bee products exist and in use? If no why?
- 2) Is there any quality control inspection guidelines? If no why?
- 3) Are there any functioning bee products marketing centres? If yes mention name, location and year of establishment.
- 4) Do you know traders who have utilized quality control services (e.g. by TFDA/TBS/EU/Export permit Certification)? If yes mention name and location.

Policy statement (44) *promised foreign investors will be encouraged to invest in development programmes and projects which local beekeepers and traders cannot afford.*

- 1) Are there foreign investments in beekeeping sector from 1998 to 2019? If yes, indicate when they were established, type (e.g. industry, apiary, processing plant) and name of investment and where located.

Appendix III: Questionnaire for President's Office Regional Administration and Local Government (PO-RALG)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (30) *promised that the role of the beekeeping administration will focus on policy development, regulation, monitoring and facilitation, and decentralization of responsibilities will be promoted. Specialist technical and training backup services as well as information dissemination and sharing will be strengthened.*

- 1) Does a decentralized structure exist for Beekeeping sector? If yes, what is the current structure

Policy Statement (31) *promised to strengthen the capacity of the local governments to administer and manage beekeeping resources (bees, bee fodder, personnel and materials) and established and enhance a coordination mechanism between the local and central governments.*

- 1) How many beekeeping specialist and technical staff from local government, and their location have attended on job training from 1998 to 2018?
- 2) How many beekeeping staff (technical and professional) and their location have been recruited at local government from 1998 to 2018?
- 3) Is there any established coordination mechanism for beekeeping activities between local and central governments (e.g. meeting, MoU, reports) from 1998 to 2018? If yes, attach evidence.

Policy Statement (35) *promised to strengthen beekeeping training in order to ensure adequate professional, technical and specialist staff in the sector. Will also promote Specialist training.*

- 1) What is the number of Beekeeping professionals vs requirement?
- 2) What is the number of Beekeeping technical staff vs requirement?

Policy statement (36) *promised to facilitate manpower development, regular demand-driven manpower needs assessment, curricula review and training planning will be conducted.*

- 1) Is Beekeeping authority having Training plan/programme for its employees?
- 2) Has there been any demand-driven manpower needs assessment since 1998?

Policy statement (43): *Consultation with development partners in the context of overall sectoral coordination of projects or programmes will be strengthened in order to avoid parallel and overlapping programmes*

- 1) What is the number of consultative meetings done with beekeeping development partners from 1998 to 2019

Appendix IV: Questionnaire for District Beekeeping Officers (DBOs)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 1: Ensured sustainable existence of honey bees by maintaining and effectively managing adequate area of bee reserves

Policy statement 1: *The government (GoT) promised to establish and manage bee reserves in order to ensure sustainable existence of indigenous honey bees stinging and stingless. Also, promised to enter into management agreement with organized local communities or other organizations of people living adjacent to the Bee Reserve.*

- 1) What is the number, name, location and size of **village** bee reserves established from 1998 to 2018? Indicate for each year.
- 2) What is the number, name, location and size of **district** bee reserves established from 1998 to 2018? Indicate for each year.
- 3) How many **joint management agreements** are there on bee reserves between GoT/ specialized agents and other parties from 1998 to 2018? List them
4. What is the number, name, location and size of **Private bee reserves** that have been established from 1998 to 2018? Indicate for each year.

Objective 2: Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same

Policy statement (4) *promised that in order to enable effective extension central government and local government will encourage executive agencies, NGOs and private sector to establish and manage apiaries*

- 1) What is the number, name, location and size of apiaries that have been established for demonstration and/or production purposes by executive agency from 1998 to 2018? Indicate for each year.
- 2) What is the number, name, location and size of apiaries that have been established by private sector for demonstration and/or production purposes in Tanzania from 1998 to 2018? Indicate for each year.
- 3) What is the number, name, location and size of apiaries that have been established by NGOs for demonstration and/or production purposes from 1998 to 2018? Indicate for each year.

Policy statement (5) *promised that establishment and management of private apiaries will be encouraged in order to ensure sustainable supply of high quality bee products and pollination services*

- 1) What is the number and location of colonies managed by private sector for pollination services?
- 2) What is the number, name, location of producers, processors and traders that their products have been certified by TBS/TFDA?

Policy statement 6 promised the government promises that the private sector will be encouraged to establish and manage beekeeping - agroforestry systems in order enable sustainable management of honeybee and floral resources for the sustained production of bee products

- 1) What is the number, name and location of Api-agroforestry projects that have been established by private sector from 1998 to 2018?

Policy statement 7: *promised that extension packages whose aims and objectives are to make beekeeping a simple and attractive economic venture will be designed and rendered to the women and the youth to enable their effective participation in carrying out beekeeping activities*

- 1) What is the number, name and location of youth and women groups (also state number of members in each group) participating in Beekeeping activities from 1998 to 2018? Indicate each year.

- 2) Are there any beekeeping extension packages for women and youth? YES/ NO. If no, why?
- 3) What is number, name and location of youth and women groups that have been trained on Beekeeping from 1998 to 2018?

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (8) *promised to ascertain the availability of appropriate beekeeping equipment through executive agencies, NGOs and private sector to carry out research and development and effectively disseminate information and equipment to beekeepers.*

- 1) What is the number, name and location of private suppliers of Beekeeping equipment and type of equipment supplied from 1998-2018? Indicate for each year.
- 2) What is the number, title, institution and specific location of Research on appropriate beekeeping equipment conducted from 1998-2018? Indicate for each year.
- 3) What is the number and location of Beekeepers (individuals/ groups) using appropriate equipment from 1998-2018, List the equipment

Policy statement 9 *promised the provision of credit facilities will be encouraged so as to attract investors in the production of beekeeping equipment.*

- 1) What is the number of investors on Beekeeping equipment production from 1998-2018? Indicate for each year.
- 2) What is the number, name and location of industries/workshops producing beekeeping equipment from 1998-2018? Indicate for each year.
- 3) What is the number, name and location of credit facilities available to support beekeeping equipment production from 1998-2018? Indicate for each year.

Policy statement (10) *promised to design and popularize an integrated approach involving different users of tree species which produce raw materials for making hives to*

enable sustainable management of resources. Promises also to ascertain through research and development alternative materials for making cheaper and effective hives. Promises to established formal cross-sectoral coordinating mechanism between Beekeeping and Forestry authorities in order to improve coordination of activities.

- 1) Is there any integrated approach involving different users of tree species which produce raw materials for making hives to enable sustainable management of resources (e.g. timber, firewood and making hive from the same tree)
- 2) What is the alternative cheap material other than trees that are in use for hive making from 1998 to 2018?
- 3) Is there any formal agreement between Beekeeping and Forestry authorities to guide coordination between different users of trees resources from 1998 to 2018?

Policy statement (I I) *promised to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.*

- 1) What is the number, name and location of honey based industries (functioning/nonfunctioning) that have been built from 1998 to 2018?

Policy statement (I 2) *promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.*

- 1) What is the number, name and location of beeswax-based industries functioning/nonfunctioning) that have been developed from 1998 to 2018?

Policy Statement (I 3) *promised to improve crop yields through encouragement of Crop producers to use bees as pollinators*

- 1) What is the number, name and location of crop producers using bees as pollinators from 1998 to 2018?

Policy statement (14) *promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products.*

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania?
- 2) What is the types of bee products other than beeswax and honey researched and developed from 1998 to 2018?
- 3) List all value added bee based products known to be produced from 1998 to 2018 in Tanzania?
- 4) What is the types of value added bee based products researched and developed from 1998 to 2018 in Tanzania?

Policy statement (15) *promised to encourage the private sector and community in general to promote beekeeping eco-tourism and establish Legal framework for coordination with Tourism sector.*

- 1) What is the number, name and location of beekeeping based eco-tourism sites from 1998 to 2018 in Tanzania?

Objective 4: Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products - based industrial development and trade.

Policy Statement (16) *promised to encourage individual beekeepers, beekeepers' associations and cooperatives to establish and manage apiaries in public land. Also promise that appropriate beekeeping equipment and management methods will be used to ascertain sustainable management and utilization of bee and bee fodder resources.*

Policy Statement (17) *promised that in order to improve the production of both bee products and pollination services which improve agricultural crop production, apiary establishment and management in agricultural land for both stinging and stingless honeybees will be encouraged*

- 1) What is the number and location of stinging/stingless bee apiaries on agricultural land from 1998 to 2018?

Policy Statement (18) *promised to encourage organized local communities, individual beekeepers, NGOs and executive agencies to establish and manage apiaries in game reserves.*

Also promises Joint management agreements including benefit-sharing mechanisms and incentives may be made between the government (Wildlife Division) and the local beekeepers (organized productive groups).

Formal cross-sectoral coordination mechanism between Beekeeping and Wildlife authorities will be established in order to improve coordination of activities under approved management plan of specific Game Reserve

- 1) What is the number, owner and location of apiaries established in Game reserve from 1998 to 2018?

Objective 5: Ensured ecosystem stability by practicing integrated pest management and carrying out environmental impact assessment for investments inside or around Bee Reserves and Apiaries.

Policy Statement (21) *promised that different measures e.g. IPM and formal coordination between Beekeeping authorities and Pesticide will be established to ensure coordination of activities*

- 1) What is the number of Integrated Pest Management (IPM) agreements that have been established between beekeepers and pesticide applicators from 1998 to 2018?

Policy statement (22) *promised the use of EIA for investments with potential environmental impacts to bees or their fodder inside or around bee reserves and apiaries.*

- 1) What is the number, name and location of investment projects carried out in on near bee reserves or apiaries from 1998 to 2018?
- 2) List the projects under which EIA were done

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (24) promised the formulation of Beekeeping legislation that is harmonized with other sectoral legislations

- 1) Are there any beekeeping Act, Regulations, guidelines and by-laws formulated and in use from 1998 to 2018?

Policy Statement (25) promised establishment and review of Royalties and other fees for bee products and services

- 1) Are there bee product-based royalties and fee structure from 1998 to 2018?
If yes, are they functioning?
- 2) Has there been any review of bee product-based royalties and fee structure?
If yes, When?

Policy Statement (26) *promised that pricing of bee products and services from private and government apiaries will be based on free market values.*

- 1) Is there any pricing system based on free market values of bee products and services from 1998 to 2018?

Policy Statement (30) *promised that the role of the beekeeping administration will focus on policy development, regulation, monitoring and facilitation, and decentralization of responsibilities will be promoted. Specialist technical and training backup services as well as information dissemination and sharing will be strengthened.*

- 1) Is there any facilitation budget to District for beekeeping activities from 1998 to 2018? If yes, what were the sources and amount for each year?
- 2) Does a decentralized structure exist for Beekeeping sector? If yes, what is the current structure
- 3) Is there any beekeeping information management system? If yes, when was it developed? Is it operational?

Policy Statement (31) *promised to strengthen the capacity of the local governments to administer and manage beekeeping resources (bees, bee fodder, personnel and materials) and established and enhance a coordination mechanism between the local and central governments.*

- 1) How many specialist and technical staff from your District that have attended on job training from 1998 to 2018?
- 2) How many beekeeping staff (technical and professional) have been recruited at your District from 1998 to 2018?

Policy statement (37): *promised to ensure increased awareness and skills amongst the people on sustainable management of beekeeping resources, the capability of the beekeeping extension services will be strengthened.*

- 1) What is the number of beekeeping extension officers in your area of operation from 1998 to 2019? Indicate for each year.
- 2) What is the number of beekeepers/beekeeping groups/beekeeping Cooperatives established and accessing extension services from 1998 to 2019?

Policy statement (38): *promised beekeeping related extension messages delivered by different natural resources management sectors and other related sectors will be harmonized through integrated planning, research and training.*

- 1) Is there a cross-sectoral extension services provisioning? If no, why?

Policy statement (39): *promised the government will encourage the establishment of beekeepers' cooperatives and associations, and will provide them with extension packages, research and market information.*

- 1) What is the number, name and location of Beekeeping groups formed and functioning from 1998 to 2019? Indicate for each year?
- 2) What is the number, name and location of Beekeeping Cooperative Societies formed and functioning from 1998 to 2019? Indicate for each year?
- 3) What is the number, name and location of Beekeeping Associations formed and functioning?
- 4) Is there a system in place to provide market information to groups/ cooperatives / associations?

- 5) How many beekeeping groups/ cooperatives / associations add value to bee products, and there location from 1998 to 2018?

Policy statement (40): *promised to ensure effective marketing system, quality control and inspection mechanism will be strengthened, and traders of bee products will be encouraged by providing them with reliable services on quality control, inspection and market information.*

- 1) Are there any functioning bee products marketing centres? If yes mention name, location and year of establishment?
- 2) Do you know traders who have utilized quality control services (e.g. by TFDA/ TBS/EU/Export permit Certification)? If yes mention name and location?

Policy statement (41): *promised coordination and cooperation between the beekeeping sector and NGOs will be promoted.*

- 3) Have there been fora between Beekeeping sector and NGOs from 1998 to 2019?
- 4) Have there been any MoUs or any agreements that have been established between Beekeeping authority and NGOs from 1998 to 2019? If yes, list them.

Policy statement (42): *promised new and innovative sectoral financing mechanisms will be developed and directed to the key functions and stakeholders of the beekeeping sector*

- 1) Is there any beekeeping fund? If yes, indicate when it was established: If no, explain why?
- 2) Are there any sectoral beekeeping supportive funds? If yes, list them and indicate when they were established.
- 3) List down the beekeepers micro financial institutions (e.g.VICOBA, SACCOS) established from 1998 to 2019, and indicate where they are based.
- 4) Are you aware of any Programmes/Projects financed by beekeeping sectoral funds? If yes, list them and indicate their location.

Policy statement (44): *promised foreign investors will be encouraged to invest in development programmes and projects which local beekeepers and traders cannot afford.*

- 1) Are there foreign investments in beekeeping sector from 1998 to 2019?
If yes, indicate when they were established, investment type (e.g. industry, apiary, processing plant) and name of investment and where located.

Appendix V: Questionnaire for Tanzania Wildlife Management Authority (TAWA) and Wildlife Division (WD)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (15) *promised to encourage the private sector and community in general to promote beekeeping eco-tourism and establish Legal framework for coordination with Tourism sector.*

- 1) What is the number, name and location of beekeeping based eco-tourism sites from 1998 to 2018 in Tanzania?

Objective 4: Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products - based industrial development and trade.

Policy Statement (18) *promised to encourage organized local communities, individual beekeepers, NGOs and executive agencies to establish and manage apiaries in game reserves.*

Also promises Joint management agreements including benefit-sharing mechanisms and incentives may be made between the government (Wildlife Division) and the local beekeepers (organized productive groups).

Formal cross-sectoral coordination mechanism between Beekeeping and Wildlife authorities will be established in order to improve coordination of activities under approved management plan of specific Game Reserve

- 1) What is the number, owner and location of apiaries established in game reserve from 1998 to 2018?
- 2) Are there any formal joint agreements between Wildlife Division (WD) and beekeepers to conduct beekeeping activities in game reserve from 1998 to 2018?
- 3) Is there any formal cross-sectoral agreement between Beekeeping and Wildlife authorities to facilitate beekeeping in game reserve from 1998 to 2018? If no, why?

Appendix VI: Questionnaire for Tanzania Forest Fund (TaFF) and Eastern Arc Mountains Conservation Endowment Fund (EAMCEF)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy statement (42): *promised new and innovative sectoral financing mechanisms will be developed and directed to the key functions and stakeholders of the beekeeping sector*

- I) Is Tanzania Forest Fund/EAMCEF supporting beekeeping activities? If yes, list funded projects, location and cost since establishment.

Appendix VII: Questionnaire for Tanzania Wildlife Research Institute (TAWIRI)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (8) promises to ascertain the availability of appropriate beekeeping equipment through encourage executive agencies, NGOs and private sector to carry out research and development and effectively disseminate information and equipment to beekeepers.

- 1) What is the number, title and specific location of Research on appropriate beekeeping equipment conducted from 1998-2018? Indicate for each year.

Policy statement (11) promises to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.

- 1) What is the number, title and specific location of Research and Development projects that have been conducted on other uses of honey from 1998 to 2018? Indicate each year.

Policy statement (12) promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.

- 1) What is the number, title and specific location of Research and Development on the use of beeswax that have been conducted from 1998 to 2018?

- 2) What is the number of research findings on the uses of beeswax that have been disseminated from 1998 and 2018?

Policy statement (14) *promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products*

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania.
- 2) What is the types of bee products other than beeswax and honey researched and developed from 1998 to 2018?
- 3) List all value added bee based products known to be produced from 1998 to 2018 in Tanzania.
- 4) What is the type of value added bee based products researched and developed from 1998 to 2018 in Tanzania?

Policy statement (15) *promised to encourage the private sector and community in general to promote beekeeping eco-tourism and establish Legal framework for coordination with Tourism sector.*

- 1) What is the number and country of origin for beekeeping eco-tourists that have visited Tanzania from 1998 to 2018?

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (32) *promised to promote and strengthened Beekeeping research and development as the basis for sustainable development and management of the beekeeping sector, and through cost sharing provide financial resources for problem - oriented research and development programmes and establish research funds.*

- 1) Has there been Beekeeping research master plan between 1998 and 2018? If yes, when was it developed?
- 2) Is Njiro Wildlife Research center provided with enough manpower to carry out beekeeping based research? Indicate available vs required staff.
- 3) Is Njiro Wildlife Research Centre equipped with key facilities to carry out beekeeping oriented research and development? Indicate available vs required facilities.
- 4) Has there been any beekeeping research budget allocation from the central government to Njiro Wildlife Research Centre from 1998 to 2019? If no, what are the other sources of funds for beekeeping research?
- 5) How many beekeeping research deliverables have been produced (reports, publications and journals) each year from 1998 to 2019?
- 6) Has there been any system of cost sharing mechanism to support beekeeping based research from 1998 to 2019? If yes, indicate number of research carried out.

Policy Statement (33) *promised to establish appropriate legal framework for cooperation and coordination of research activities between Njiro Beekeeping Research Centre (NBRC) and other related research institutions. Also that in order to strengthen beekeeping research in Tanzania the current administrative linkage between SWRI and NBRC which was formed by Act No. 4 of 1980 which established SWRI will be revised. Beekeeping authority will promote formal arrangement for cooperation, coordination and collaboration of Njiro with other research institutions.*

- 1) Has Njiro Beekeeping Research centre been given autonomy as a way of strengthening beekeeping research in Tanzania? If no, why?
- 2) Has appropriate legal framework for cooperation and coordination of research activities between Njiro Beekeeping Research Centre (NBRC) and other related research institutions established? If no, why?
- 3) Which other research institutions collaborate with Njiro Beekeeping Research Centre from 1998 to 2019?

Policy Statement (34) *promised to continuously carry out reviews to ensure research priorities are always on demand - driven research principle capturing the views of stakeholders*

- 1) How many times has beekeeping research priorities been revised based on users demand between 1998 and 2019?

Policy Statement (35) *promised to strengthen beekeeping training in order to ensure adequate professional, technical and specialist staff in the sector. Will also promote Specialist training.*

- 1) What is the number of Beekeeping professionals vs requirement?
- 2) What is the number of Beekeeping technical staff vs requirement?

Policy statement (36) *promised to facilitate manpower development, regular demand-driven manpower needs assessment, curricula review and training planning will be conducted.*

- 1) Is Beekeeping authority having Training plan/programme for its employees?
- 2) Has there been any demand-driven manpower needs assessment since 1998?

Appendix VIII: Questionnaire for Beekeeping Training Institutions (BTI, FTI, SEKOMU, SUA and UDSM)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (I1) *promised to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.*

- 1) What is the number, title and specific location of Research and Development projects that have been conducted on other uses of honey from 1998 to 2018? Indicate for each year.

Policy statement (I2) *promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.*

- 1) What is the number, title and specific location of Research and Development on the use of beeswax that have been conducted from 1998 to 2018?
- 2) What is the number of research findings on the uses of beeswax that have been disseminated from 1998 and 2018?

Policy statement (I4) *promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products.*

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania?
- 2) What is the types of bee products other than beeswax and honey researched and developed from 1998 to 2018?
- 3) List all value added bee based products known to be produced from 1998 to 2018 in Tanzania?
- 4) What is the type of value added bee based products researched and developed from 1998 to 2018 in Tanzania?

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (35) *promised to strengthen beekeeping training in order to ensure adequate professional, technical and specialist staff in the sector. Will also promote Specialist training.*

- 1) What is the number of technical and professional (Certificate, Diploma, Bachelor degree, Masters and PhD) staff graduating from 1998 to 2018?

Policy statement (36) *promised to facilitate manpower development, regular demand-driven manpower needs assessment, curricula review and training planning will be conducted.*

- 1) How many times has your Training Institution reviewed its curriculum since 1998 (indicate years of revision)

Appendix IX: Questionnaire for Tropical Pesticides Research Institute (TPRI)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 5: Ensured ecosystem stability by practicing integrated pest management and carrying out environmental impact assessment for investments inside or around Bee Reserves and Apiaries.

Policy Statement (21) promised that different measures e.g. IPM and formal coordination between Beekeeping authorities and Pesticide will be established to ensure coordination of activities

- 1) What is the number of Integrated Pest Management (IPM) agreements that have been established between beekeepers and pesticide applicators from 1998 to 2018?
- 2) Is there any formal cross-sectoral coordination mechanism (e.g. Forum) established between Forestry and Beekeeping Division and pesticide application authorities from 1998 to 2018? If no why?

Appendix X: Questionnaire for Tanzania National Parks Authority (TANAPA)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 4: Improved biodiversity, increased employment and foreign exchange earnings through sustainable bee products - based industrial development and trade.

Policy Statement (19) *promised to explore the possibilities of carrying out Beekeeping in National Park in collaboration with Wildlife authorities.*

- 1) What is the number of formal meetings/fora that have been organized between Beekeeping and national park authorities to explore the possibilities by 2018?
- 2) If yes did you reach any agreement?

Appendix XI: Questionnaire for Quality Control Institutions (TFDA and TBS)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 2: Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same

Policy statement (5) promised that establishment and management of private apiaries will be encouraged in order to ensure sustainable supply of high quality bee products and pollination services

- 1) Are there quality control guidelines for bee products? If yes, list them and indicate the year issued for use.
- 2) What is the number, name, location of producers, processors and traders whose products have been certified by TBS/TFDA?

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (11) promises to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.

- 1) What is the number, name and specific location of honey based industries (functioning/non functioning) that have been built from 1998 to 2018?

Policy statement (12) promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and

development on other uses of beeswax and subsequent dissemination of results to users will be promoted.

- 1) What is the number, name and specific location of beeswax-based industries (functioning/nonfunctioning) that have been developed from 1998 to 2018?

Policy statement (14) *promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products*

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania.
- 2) List all value-added bee based products known to be produced from 1998 to 2018 in Tanzania.

Appendix XII: Questionnaire for Small Industries Development Organisation (SIDO)

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 2: Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same

Policy statement (5) *promised that establishment and management of private apiaries will be encouraged in order to ensure sustainable supply of high quality bee products and pollination services*

- 1) Are there quality control guidelines for bee products? If yes, list them and indicate the year issued for use.
- 2) What is the number, name, location of producers, processors and traders being facilitated by SIDO whose products have been certified by TBS/TFDA?

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement 9 *promised the provision of credit facilities will be encouraged so as to attract investors in the production of beekeeping equipment.*

- 1) What is the number, name and location of industries/workshop producing beekeeping equipment being facilitated by SIDO from 1998-2018? Indicate for each year.
- 2) What is the number, name and location of credit facilities from SIDO available to support beekeeping equipment production from 1998-2018? Indicate for each year.

Policy statement (11) promises to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.

- 1) What is the number, name and specific location of honey based industries (functioning/nonfunctioning) that have been built from 1998 to 2018?

Policy statement (12) promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.

- 1) What is the number, name and specific location of beeswax-based industries (functioning/nonfunctioning) that have been developed from 1998 to 2018?

Policy statement (14) promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products

- 1) List all value added bee based products known to be produced by various entities from 1998 to 2018 in Tanzania.

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy statement (39): promised the government will encourage the establishment of beekeepers' cooperatives and associations, and will provide them with extension packages, research and market information.

- 1) Has there been a reliable market for bee products in your area from 1998 to 2018? If yes list the markets for each year.
- 2) Is there a system in place to provide market information to groups/ cooperatives / associations?

Policy statement (40): *To ensure effective marketing system, quality control and inspection mechanism will be strengthened, and traders of bee products will be encouraged by providing them with reliable services on quality control, inspection and market information.*

- 1) Does traceability system of bee products exist and in use by SIDO supportive entities? If no why?

Policy statement (42): *promised new and innovative sectoral financing mechanisms will be developed and directed to the key functions and stakeholders of the beekeeping sector*

- 1) Is SIDO supporting beekeeping activities? If yes, list funded projects, location and cost since establishment.

Policy statement (44): *Foreign investors will be encouraged to invest in development programmes and projects which local beekeepers and traders cannot afford.*

- 1) Are there foreign investments in beekeeping sector from 1998 to 2019?
If yes indicate when they were established, investment type (e.g. industry, apiary, processing plant) and name of investment and where located.

Appendix XIII: Questionnaire for Api-Eco-Tourism companies

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement (15) promises to encourage the private sector and community in general to promote beekeeping eco-tourism and establish Legal framework for coordination with Tourism sector.

- 1) What is the number, name and location of beekeeping based eco-tourism sites from 1998 to 2018 in Tanzania?
- 2) Is there any established legal framework to coordinate beekeeping eco-tourism (i.e. api-eco-tourism) with Tourism sector?
- 3) What is the number and country of origin for beekeeping eco-tourists that have visited Tanzania from 1998 to 2018?

Appendix XIV: Questionnaire for bee products traders and processors

Please evaluate how you fulfilled the six objectives of the Beekeeping policy of 1998 by answering the following questions. Return the answers to the address indicated at the end of this questionnaire. Use a separate answering sheet.

Objective 2: Improved quality and quantity of honey, beeswax and other bee products and ensured sustainable supply of the same

Policy statement (5) promises that establishment and management of private apiaries will be encouraged in order to ensure sustainable supply of high quality bee products and pollination services

- 1) Are there quality control guidelines for bee products? If yes list them and indicate the year issued for use.
- 2) What is the number, name, location of producers, processors and traders whose products have been certified by TBS/TFDA?

Objective 3: Enhanced beekeeping-based (national) development and poverty alleviation through sustainable supply of bee products (honey; beeswax, royal jelly, propolis, brood, pollen) and services.

Policy statement 9 promised the provision of credit facilities will be encouraged so as to attract investors in the production of beekeeping equipment.

- 3) What is the number, name and location of industries/workshop producing beekeeping equipment from 1998-2018? Indicate for each year.
- 4) What is the number, name and location of credit facilities available to support beekeeping equipment production from 1998-2018? Indicate for each year.

Policy statement (11) promised to encourage the establishment and development of honey-based industries and production of honey products. Promises also to promote research and development on other uses of honey.

- 1) What is the number, name and specific location of honey based industries (functioning/non functioning) that have been built from 1998 to 2018?

Policy statement (12) *promised the establishment and development of beeswax-based industries and production of beeswax products will be encouraged in order to ensure sustainable supply for both domestic consumption and for export. Research and development on other uses of beeswax and subsequent dissemination of results to users will be promoted.*

- 1) What is the number, name and specific location of beeswax-based industries functioning/non functioning) that have been developed from 1998 to 2018?

Policy statement (14) *promised to encourage research institutions, the private sector and the community in general to invest in research and development to promote uses of other bee products*

- 1) List all bee products other than honey and beeswax known to be harvested from 1998 to 2018 in Tanzania.
- 2) List all value added bee based products known to be produced from 1998 to 2018 in Tanzania.

Objective 6: Enhanced national capacity to manage and develop the beekeeping sector in collaboration with other stakeholders

Policy Statement (24) promised the formulation of Beekeeping legislation that is harmonized with other sectoral legislations

- 1) Are there any beekeeping Act, Regulations, guidelines and by-laws formulated and in use from 1998 to 2018?

Policy Statement (25) promised establishment and review of Royalties and other fees for bee products and services

- 1) Are there bee product-based royalties and fee structure from 1998 to 2018?
If yes, are they functioning?
- 2) Has there been any review of bee product-based royalties and fee structure?
If yes, When?

Policy Statement (26) *promised that pricing of bee products and services from private and government apiaries will be based on free market values.*

- 1) Is there any pricing system based on free market values of bee products and services from 1998 to 2018?

Policy Statement (27): *Importation of bees, bee products, and used bee equipment will be controlled in order to prevent possible importation of bee diseases and parasites which would kill indigenous honeybees.*

- 1) Does a legislation to control importation of bees, bee products and used equipment exist from 1998 to 2018?

Policy statement (39): *The government will encourage the establishment of beekeepers' cooperatives and associations, and will provide them with extension packages, research and market information.*

- 3) Has there been a reliable market for bee products in your area from 1998 to 2018? If yes list the markets for each year.

Policy statement (40): *To ensure effective marketing system, quality control and inspection mechanism will be strengthened, and traders of bee products will be encouraged by providing them with reliable services on quality control, inspection and market information.*

- 1) Does traceability system of bee products exist and in use? If no why?
- 2) Do you know traders who have utilized quality control services (e.g. by TFDA/TBS/EU/Export permit Certification)? If yes mention name and location.

Policy statement (44): *Foreign investors will be encouraged to invest in development programmes and projects which local beekeepers and traders cannot afford.*

- 1) Are there foreign investments in beekeeping sector from 1998 to 2019? If yes indicate when they were established, investment type (e.g. industry, apiary, processing plant) and name of investment and where located.

Appendix XV: Questionnaire for Beekeepers

Tafadhali jibu maswali yafuatayo ikiwa ni sehemu ya kutathmini namna ambavyo malengo ya Sera ya Taifa ya Ufugaji wa Nyuki, 1998 yalivotekelezwa mpaka kufikia 2018. Tumia karatasi nyingine kujibu maswali haya:

Lengo namba 1: Kuhakikisha kuwapo kwa nyuki wa asali kwa kuanzisha hifadhi za nyuki za kutosha na kuzisimamia kikamilifu

Tamko la Sera 1: Ili kuhakikisha kuwapo nyuki wa asali, serikali itaanzisha na kusimamia kwa misingi endelevu Hifadhi za Nyuki. Serikali au Taasisi za Utekelezaji zitaingia mikataba ya usimamizi wa pamoja na jumuiya za wananchi au vyama vingine vya watu wanaoishi kandokando ya Hifadhi za Nyuki. Ili kuhakikisha usimamizi endelevu wa Hifadhi za Nyuki mikataba hii itabainisha haki za watumiaji na mafao kwa wahusika kutoka katika hifadhi hizo.

1. Kuna hifadhi ngapi za nyuki za vijiji zilizoanzishwa katika eneo lako toka mwaka 1998 mpaka 2018? Taja majina na mahali zilipo hifadhi hizi. Onyesha mtiririko kwa kila mwaka.
2. Kuna hifadhi ngapi za nyuki za watu/taasisi binafsi zilizoanzishwa katika eneo lako toka mwaka 1998 mpaka 2018? Taja majina na mahali zilipo hifadhi hizi kwa kila mwaka.

Lengo namba 2: Kuongeza ubora na wingi wa asali na nta na kuongeza mahitaji ya mazao hayo

Tamko la Sera (4): Ili kuimarisha na kuendeleza huduma za ugani, serikali kuu na serikali za mitaa zitahamasisha taasisi za utekelezaji, mashirika yasiyo ya kiserikali na watu binafsi kuanzisha manzuki za mifano ya ufugaji nyuki bora. Manzuki hizi zitasimamiwa kwa kufuata mipango iliyoidhinishwa, na zitatakiwa zijiendeshe zenyewe kifedha na kwa faida.

- 1) Ni manzuki ngapi za watu au taasisi binafsi zilizoanzishwa kwa ajili ya uzalishaji na utoaji wa mafunzo katika eneo lako toka mwaka 1998 mpaka 2018? Taja majina na mahali zilipo kwa kila mwaka.

Tamko la Sera (5): Ili kuhakikisha kuna upatikanaji endelevu wa mazao ya nyuki na huduma bora za uchavushaji, uanzishwaji na usimamizi wa Manzuki za kibinafsi vitahimizwa.

- 1) Kuna makundi mangapi ya nyuki yanayomilikiwa na watu/sekta binafsi kwa ajili ya kuchavusha mazao ya kilimo? Taja majina ya wamiliki na sehemu yaliko makundi haya.
- 2) Je, mazao ya nyuki kutoka kwa wafugaji, wachakataji na wafanyabiashara wa mazao ya nyuki yamethibitishwa na taasisi za kudhibiti na kulinda ubora wa bidhaa (TBS&TFDA) toka mwaka 1998 mpaka 2018? Kama ndiyo, taja majina, mahali walipo na mwaka wa kuthibitishwa.

Tamko la Sera (6): Ili kuhakikisha kuwapo kwa usimamizi mzuri wa rasilimaii za nyuki wa asali na mimea ya chakula chao kwa ajili ya uzalishaji endelevu wa mazao ya nyuki, sekta binafsi itahimizwa kuanzisha na kusimamia ufugaji nyuki katika mfumo wa kilimo-misitu.

- 3) Je, sekta binafsi imeanzisha miradi ya ufugaji nyuki katika mfumo wa kilimo-misitu toka mwaka 1998 hadi 2018? Kama Ndiyo, taja majina ya wamiliki na mahali miradi iliko?

Tamko la Sera (7): Ili kuwavutia wanawake na vijana washiriki kikamilifu katika ufugaji nyuki, huduma mahsusi za ugani kwa ajili ya makundi haya zitaanzishwa.

- 1) Je, kuna vikundi vya vijana na akina mama ambavyo vimekuwa vikishiriki shughuli za ufugaji wa nyuki toka mwaka 1998 mpaka 2018? Kama ni ndiyo, Onyesha majina ya vikundi kwa kila mwaka, idadi ya wanachama kwa kila kikundi na mahali kikundi kilipo. **Mfano;**

Mwaka	Jina la Kikundi	Idadi ya wanachama	Mahali kilipo
1998			
1999			
2000 na kuendelea hadi 2018 kwa kila mwaka			

Lengo 3: Kukuza mchango wa ufugaji nyuki kwa maendeleo na kupunguza umasikini kwa kuwa na uzalishaji endelevu wa mazao ya nyuki (asali; nta, maziwa ya nyuki, gundi ya nyuki, majana, chavua) na huduma.

Tamko la Sera (8): Upatikanaji wa vifaa sahihi vya Ufugaji Nyuki utahakikishwa kwa kuhimiza Taasisi za Utekelezaji, mashirika yasiyo ya kiserikali na sekta binafsi, wafanye utafiti wa maendeleo ya vifaa hivi na kusambaza vifaa na matokeo ya utafiti huo kwa Wafugaji Nyuki.

- 1) Je, kuna wauzaji na wasambazaji wa vifaa vya ufugaji wa Nyuki wangapi katika eneo lako toka mwaka 1998 mpaka 2018? Taja majina, aina ya vifaa na mahali walipo kwa kila mwaka. **Mfano;**

Mwaka	Jina la muuzaji	Aina ya vifaa	Mahali alipo
1998			
1999 na kuendelea hadi 2018 kwa kila mwaka			

Tamko la Sera (9): Ili kuwavutia wawekezaji katika uzalishaji wa vifaa vya ufugaji nyuki, utoaji wa mikopo utahimizwa.

- 1) Je, kuna viwanda vingapi katika eneo lako vinavyotengeneza vifaa vya ufugaji wa nyuki toka 1998 mpaka 2019? Taja majina na mahali viliko kwa kila mwaka.

Tamko la Sera (10): Ili kuhakikisha matumizi bora ya rasilimali, matumizi mbalimbali ya miti inayofaa kutengenezea mizinga yataratiwa. Malighafi mbadala ya kutengenezea mizinga sahihi na ya bei nafuu itatafutwa kupitia utafiti. Mfumo rasmi wa uratibu kati ya mamlaka za ufugaji wa nyuki na misitu utanzishwa.

- 1) Je, kuna mfumo wa matumizi mbalimbali ya mti mmoja ikijumuisha upatikanaji wa mizinga kwa wakati mmoja? (Mfano: Mbao, Kuni). Kama ni NDIYO, ni kwa kiasi gani mfumo huu umekuwa ukatumika?
- 2) Je, ni aina gani ya malighali tofauti na miti zenye gharama nafuu zinazotumika kutengenezea mizinga toka 1998 mpaka 2018?

- 3) Je, kuna makubaliano maalum kati ya uongozi wa sekta ya Nyuki na Misituta yanayoratibu matumizi ya mti moja kwa watumiaji zaidi ya mmoja toka 1998 mpaka 2018? *Mfano; mtumiaji mmoja anatengeneza mzinga wa gogo, mwingine anapata kuni kutoka kwenye mti huo huo mmoja.*

Tamko la Sera (II): *Uanzishwaji na uendelezaji wa viwanda vinavyojikita kwenye asali na uzalishaji wa bidhaa zitokanazo na asali utahimizwa. Utafiti na maendeleo kuhusu matumizi mengineyo ya asali utakuzwa.*

- 1) Je, kuna viwanda/vituo vya kuchakata asali vilivyojengwa (vinavyofanya kazi na visivyofanya kazi) toka mwaka 1998 mpaka 2018? Taja majina na mahali vilipo viwanda hivi kwa kila mwaka. **Mfano**

Mwaka	Jina la kiwanda	Jina la mmiliki	Mahali kilipo
1998			
1999 na kuendelea hadi 2018 kwa kila mwaka			

Tamko la Sera (I2): *Uanzishwaji na uendelezaji wa viwanda na bidhaa zitokanazo na nta utahimizwa ili kuhakikisha upatikanaji endelevu wa bidhaa hizo kwa mahitaji ya ndani na nje ya nchi. Utafiti na maendeleo ya matumizi mengineyo ya nta na usambazaji wa matokeo ya utafiti huo kwa watumiaji vitahimizwa.*

- 1) Je, kuna viwanda/vituo vya kuchakata nta na bidhaa zitokanazo na nta vilivyojengwa (vinavyofanya kazi na visivyofanya kazi) toka mwaka 1998 mpaka 2019? Taja majina na mahali vilipo viwanda hivi kwa kila mwaka.

Mwaka	Jina la kiwanda	Jina la mmiliki	Mahali kilipo
1998			
1999 na kuendelea hadi 2018 kwa kila mwaka			

Tamko la Sera (13): Wakulima watahamasishwa kutumia nyuki katika uchavushaji wa mimea yao ili kuongeza uzalishaji na ubora wa mazao.

- 1) Taja idadi, majina na maeneo waliko wakulima wa mazao ya chakula wanaotumia nyuki kuchavusha mazao yao toka 1998 mpaka 2018.

Tamko la Sera (14): Ili kukuza matumizi ya mazao mengine ya nyuki, taasisi za utafiti, sekta binafsi na jumuiya kwa ujumla watahamasishwa ili wawekeze katika utafiti na uendelezaji wa mazao hayo.

- 1) Taja mazao mengine ya nyuki ukiachilia mbali asali na nta yanayovunwa nchini Tanzania? Yalianza kuvunwa lini?
- 2) Taja bidhaa zilizoongezewa thamani kutokana na mazao ya nyuki zinazozalishwa nchini Tanzania? Yaliaanza kuongezwa thamani lini?

Tamko la Sera (15): Sekta binafsi na jumuiya kwa jumla zitahimizwa kuendeleza na kutangaza utalii wa kiikolojia katika hifadhi za nyuki, manzuki na mazao yatokanayo na nyuki. Mfumo wa kisheria wa uratibu na sekta ya utalii utanzishwa.

- 1) Je, kuna maeneo ambayo utalii wa ufugaji wa nyuki hufanyika katika kijiji chako? Kama ndiyo, taja maeneo, mahali yalipo na mwaka yaliyoanzishwa.

Lengo namba 4: Kuboresha bioanuwai, kuongeza ajira na mapato ya fedha za kigeni kwa kuendeleza viwanda vinavyojikita kwenye mazao ya nyuki na biashara

Tamko la Sera (16): Mfugaji nyuki mmoja mmoja, vikundi na vyama vya ushirika vya wafugaji nyuki vitahamasishwa kuanzisha na kusimamia manzuki katika ardhi huria. Ili kuhakikisha kwamba kuna usimamizi na matumizi endelevu ya rasilimali ya nyuki na chakula chao, vifaa vya ufugaji nyuki na usimamizi sahihi vitatumika.

- 1) Je, wafugaji wa nyuki wangapi wameanzisha manzuki katika ardhi ya wazi (Ardhi isiyo ya hifadhi) kwa kipindi cha mwaka 1998 mpaka 2018? Kama ndiyo, taja idadi ya manzuki na maeneo zilikoanzishwa.

Tamko la Sera (17): Uanzishwaji na usimamizi wa manzuki katika maeneo ya kilimo utahimizwa ili kuboresha uzalishaji wa mazao ya nyuki na huduma za uchavushaji. Huduma za uchavushaji zitaboresha mazao ya kilimo.

- 1) Taja idadi na maeneo ya kilimo ambako manzuki za nyuki wanaouma na wasiouma zimeanzishwa

Tamko la sera (18): Uanzishwaji na usimamizi wa manzuki katika mapori ya akiba utakaofanywa na Jumuiya, mfugaji nyuki mmoja mmoja, mashirika yasiyo ya kiserikali na taasisi za utekelezaji utahimizwa. Makubaliano ya usimamizi wa pamoja, yakijumuisha mgawanyo wa mafao yatafanywa kati ya serikali na wafugaji nyuki. Utaratibu rasmi wa ushirikiano kati ya mamlaka za Ufugaji Nyuki na Wanyamapori utaanzishwa ili kuboresha uratibu wa shughuli chini ya mipango ya usimamizi wa mapori ya akiba husika.

- 1) Je, kuna makubaliano rasmi kati ya uongozi wa Idara ya wanyamapori na wafugaji nyuki yanayowaruhusu kufuga nyuki katika mapori ya akiba ya wanyamapori? Kama ndiyo, ni lini makubaliano yalifikiwa.

Tamko la sera (20): Sekta binafsi na jumuiya zilizoungana zitahimizwa kuanzisha na kusimamia manzuki katika misitu ya hifadhi na mashamba ya miti. Manzuki hizo zitasimamiwa chini ya utaratibu wa usimamizi wa pamoja wa misitu ambao utazingatia masilahi ya washikadau. Utaratibu rasmi baina ya mamlaka za ufugaji nyuki na misitu utaanzishwa ili kufanikisha ufugaji nyuki katika misitu ya hifadhi na mashamba ya miti.

- 1) Je, kuna makubalino yoyote rasmi kati ya wafugaji wa nyuki na Idara ya misitu na nyuki kushiriki kufuga ndani ya misitu ya hifadhi/mashamba ya miti? Kama ndiyo, orodhesha maeneo misitu na mashamba yalipo na watumiaji.

Lengo namba 5: Kuhakikisha uthibiti wa mifumo ikolojia kwa kutumia usimamizi unganishi wa wadudu waharibifu na ukadiriaji wa athari kwa mazingira ndani na au kuzunguka Hifadhi za Nyuki na Manzuki

Tamko la sera (21): Ili kuwalinda nyuki wasidhuriwe na viuwadudu, makubaliano ya usimamizi unganishi wa wadudu waharibifu baina ya watumiaji wa viuwadudu na wafugaji nyuki yataanzishwa. Utaratibu baina ya mamlaka za Ufugaji nyuki na taasisi nyingine zinazojihusisha na matumizi ya viuwadudu utaanazishwa. Inategemewa kuwa utaratibu huu utapunguza matumizi holela ya viuwadudu.

- 3) Je, kuna makubaliano rasmi kati ya wafugaji nyuki na watumiaji wa viuwadudu yaliyofikiwa kati ya 1998 na 2019?

Lengo namba 6: Kukuza uwezo wa kusimamia na kuendeleza Sekta ya Ufugaji Nyuki kwa kushirikiana na washikadau

Tamko la Sera (26): Bei za mazao ya nyuki na huduma kutoka katika manzuki za binafsi na za serikali zitapangwa kulingana na thamani yake katika soko huru.

- 1) Je, kuna mfumo wa kupanga bei ya mazao ya nyuki unaozingatia misingi ya soko huru?

Tamko la Sera (37): Ili kuhakikisha kuwa kuna mwamko na stadi miongoni mwa wananchi katika usimamizi endelevu wa rasilimali za ufugaji nyuki, uwezo wa kutoa huduma za ugani wa ufugaji nyuki utaimarishwa.

- 1) Kuna ma-afisa ufugaji nyuki wangapi katika eneo lako unaloendeshea ufugaji wa nyuki?
- 2) Taja idadi ya wafugaji nyuki/vikundi na vyama vya ushirika vilivyoanzishwa na vinavyopata huduma za ughani? Vilianzishwa lini?

Tamko la Sera (39): Serikali itahamasisha kuanzishwa kwa vyama vya ushirika na jumuiya nyinginezo za ufugaji nyuki, na itavipatia vikundi hivi huduma za ugani, utafiti na habari za masoko.

- 1) Taja idadi, majina na mahali vilipo vikundi vya ufugaji nyuki vilivyoanzishwa na vinavyofanya kazi toka 1998 mpaka 2018. Onyesha kwa kila moja.
- 2) Taja idadi, majina na mahali vilipo vyama vya ushirika vya ufugaji nyuki vilivyoanzishwa na vinavyofanya kazi toka 1998 mpaka 2018. Onyesha kwa kila moja.
- 3) Je, kuna mfumo unaowezesha upashwaji wa habari za masoko kwa vikundi na vyama vya ushirika vya ufugaji wa nyuki? Kama ndiyo, mwaka gani ulianza kutumika?

- 4) Je, kuna soko la uhakika la mazao ya nyuki kwa kipindi cha mwaka 1998 mpaka 2018? Taja majina ya wanunuzi kwa kila mwaka.
- 5) Ni vikundi/vyama vya ushirika vya ufugaji nyuki vingapi vinavyoongeza thamani mazao ya nyuki toka 1998 mpaka 2018? Taja majina na maeneo viliko.

Tamko la Sera (40): Ili kuhakikisha kwamba kuna mfumo thabiti wa biashara ya mazao ya nyuki, udhibiti wa ubora wa mazao hayo na ukaguzi utaimarishwa. Biashara ya mazao ya nyuki itahimizwa kwa kuimarisha huduma za kuaminika za udhibiti wa ubora na ukaguzi wa mazao na habari za masoko.

- 1) Je, kuna mfumo wa ufuatiliaji wa mazao ya nyuki unaotumika?
- 2) Je, kuna miongozo inayotumika kusimamia ubora wa mazao ya nyuki?
- 3) Je, kuna vituo vinavyotumika kuuzia mazao ya nyuki? Kama ndiyo, taja majina, sehemu vilipo na mwaka wa kuanzishwa.
- 4) Je, kuna wafanyabiashara wa mazao ya nyuki waliothibitisha ubora wa mazao ya nyuki katika taasisi za kudhibiti ubora na usalama (TFDA/TBS). Kama ndiyo, taja majina na maeneo wanakotoka.

Tamko la Sera (41): Uratibu na ushirikiano kati ya sekta ya ufugaji nyuki na mashirika yasiyo ya kiserikali vitaimarishwa.

- 1) Je, kumekuwepo kwa majadiliano ya pamoja kati ya sekta ya ufugaji nyuki na taasisi zisizo za kiserikali zinazojihusisha na ufugaji nyuki?

Tamko la Sera (42): Taratibu mpya na bunifu za upatikanaji wa fedha kissekta zitaanzishwa na kuelekezwa kwenye shughuli za msingi za washikadau katika sekta ya ufugaji nyuki.

- 1) Je, kuna mfuko wa fedha mahsusi unaosaidia kuendeleza ufugaji nyuki Tanzania au katika eneo lako? Kama ndiyo, onyesha ulianza lini?
- 2) Je, kuna mifuko ya fedha nje ya sekta ya ufugaji nyuki inayosaidia kuendeleza ufugaji wa nyuki nchini au katika eneo lako? Kama ipo, itaje na onyesha lini ilianza kutumika.
- 3) Taja taasisi za kifedha (kama vile VICOBA/SACCOS) zilizoanzishwa na wafugaji wa nyuki na onyesha mahali vilipo na mwaka wa kuanzishwa.

Appendix XVI: A checklist used to capture information during the evaluation of implementation of NBP (1998) workshop in Dodoma

1. Eleza Mafanikio yaliyopatikana katika utekelezaji wa shughuli zenu zinazohusiana na sekta ya ufugaji nyuki
2. Ainisha Changamoto zilizojitokeza wakati wa utekelezaji wa shughuli zenu zinazohusiana na sekta ya ufugaji nyuki na zipangilie kwa umuhimu wake.
3. Kwa maoni/uzoefu wenu, mnadhani ni masuala gani muhimu yanayotakiwa kujumuishwa katika Sera ya Taifa ya Ufugaji Nyuki, 1998 ili kuboresha utendaji wa Sekta ya ufugaji nyuki.
4. Kupitia uzoefu wa shughuli za ufugaji wa Nyuki kutoka nchi zingine, ni mambo gani yakujifunza ambayo yanaweza kuboresha sekta ya ufugaji Nyuki nchini kwetu.
5. Kwa uzoefu wenu, ni kwa namna gani mnadhani shughuli za ufugaji wa Nyuki zimechangia katika kuboresha maisha ya kaya, uchumi wa Taifa na hifadhi ya mazingira kwa ujumla wake?

Appendix XVII: List of participants during evaluation of implementation of NBP (1998) workshop in Dodoma

S/N	Jina Kamili	Cheo	Taasisi anayotoka	Anwani Kamili	Namba ya simu na anuani ya barua pepe
1	Lusius Mwenda	Kaimu Katibu Mkuu	MNRT	Dodoma	0787-279399
2	Dkt. Ezekiel E. Mwakalukwa	DFoB	MNRT	Dodoma	0782-232381
3	Mh. Mizengo Pinda	Waziri Mkuu Mstaafu	Mdau	Dodoma	0783-238290
4	Daniel C. Pancras	Ag.ADBD	MNRT	Dodoma	0755-578057
5.	Mary Saini	Mfugaji Nyuki	Kikundi cha Ufugaji Nyuki/ Utunzaji Mazingira Gwandi – Chemba	SLP 550, Kondo/ Chemba	0764-741941
6.	Adelard Paul	Kaimu Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Singida	SLP 27 Singida	0763-768863; pauladelard@gmail.com
7.	Agnes Yesaya	Meneja	SIDO Singida	SLP 327, Singida	0755-025190; aggysaya@yahoo.com
8.	Jazili Juma Haji	Mfanyabiashara	Kondo Investment	SLP 652, Kondo	0764-669512/ 0784-328031; mjazili89@gmail.com
9.	David N. Kamwana	Mfugaji Nyuki	Ibwani Group Kiteto	SLP 98, Kiteto	0786-268385
10.	Kisaki Athumani	Mfugaji Nyuki	Mwailanje Group	SLP 830, Chemba	0786-135350

S/N	Jina Kamili	Cheo	Taasisi anayotoka	Anwani Kamili	Namba ya simu na anuani ya barua pepe
11.	Joseph Mboya	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Itigi	SLP 70, Itigi	0765-715456
12.	Yusuph Nyonyi	Kaimu Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Chamwimo	SLP 112, Chamwino	0745-986611; nyonyiyusuph@gmail.com
13.	Dkt. Angela Mwakatobe	Mjumbe Kikosikazi	Taasisi ya Utafiti wa Wanyamapori Tanzania (TAWIRI)	SLP 661, Arusha	0754-817657; angela.mwakatobe@tawiri.or.tz
14.	Luciana E. Mshana	Mjumbe Kikosikazi	TFS – Mstaafu		0784-474667; lucymshana@gmail.com
15.	Philbert U. Benedict	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Ikungi	SLP 42, Singida	0712-244549; bo@ikungige.go.tz
16.	Mikassy S. Mpembee	Mfugaji Nyuki	Mfugaji Nyuki Binafsi	SLP 42, Singida	0767-270768/0714-270765
17.	Abdallah Salumu	Mfugaji Nyuki	Manzuki Group Issuna “A”	SLP 1615, Singida	0752-211854
18.	Elibariki E. Uisso	Afisa Nyuki (DBO)	TFS – Kondoa Kituo cha Ufugaji Nyuki Nyandakame	SLP 144, Kondoa	0759-37902/0684-980109
19.	Richard Pangani	Mchumi	Wizara ya Mifugo na Uvuvi	SLP 2870, Dodoma	0786-213794; richardpangani@yahoo.com
20.	Mzamilu Kaita	Bwana Nyama	MNRT-WD	SLP 1351, Dodoma	0719-866955
21.	Lazaro Linjano	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Kiteto	SLP 98, Kiteto	0767-483867
22.	Audax Bahwetina	ADPP	MNRT	SLP 1351, Dodoma	0757-857099

S/N	Jina Kamili	Cheo	Taasisi anayotoka	Anwani Kamili	Namba ya simu na anuani ya barua pepe
23.	Deogratius M. Joseph	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Kondoa	SLP 1, Kondoa	0718-463138
24.	Hadji Hatibu	Afisa Misitua	TFS – C2	SLP 840, Dodoma	0713-330470
25.	Monica A. Kagya	Mjumbe Kikosikazi	Afisa Nyuki- Mstaafu FBD	SLP 5743, Dar es Salaam	0754-263464
26.	Seif Salum	Mjumbe Kikosikazi	Tabora Municipality	SLP 174, Tabora	0754-043301
27.	Dkt. Samora Macrice	Katibu Kikosikazi	Chuo Kikuu cha Kilimo Cha Sokoine	SLP 3010 Morogoro	0686-366163
28.	Prof. Shombe N. Hassan	Mwenyekiti Kikosikazi	Chuo Kikuu cha Kilimo Cha Sokoine	SLP 3073, Morogoro	0782-348360
29.	Habiba Maduga Martin	Mjasiliamali Mazao ya Nyuki	GEDRO	Dodoma	0758-777716
30.	Philemon J. Kiemi	Rais - SYECCOS	SYECCOS	Singida	0765-895805
31.	Philip Ndilahomba	Mjumbe Kikosikazi	FBD-MNRT	SLP 1351, Dodoma	0767-697956 ndilahombap@ gmail.com
32.	Stephen Msemu	Afisa Miradi	TaFF	Dodoma	0754-651868
33.	Felix Msoka	Mchumi	Wizara ya Kilimo	Dodoma	0754-533967
34.	Sauda R. Muninga	Mfugaji Nyuki	NASA AGRO BUSSINESS CO. LTD	SLP 2720, Dodoma	0754-340392

S/N	Jina Kamili	Cheo	Taasisi anayotoka	Anwani Kamili	Namba ya simu na anuani ya barua pepe
35.	Gladys Lukindo	Afisa Habari	MNRT	Dodoma	0754-623655 gladys-lukindo@yahoo.com
36.	Gaudence Kazyoba	Afisa Nyuki (MBO)	Halmashauri ya Wilaya ya Singida	SLP 236, Singida	0754-386532 menkay2@yahoo.com
37.	Rudia H. Issa	Mfugaji Nyuki	TABEDO	SLP 1, Kondoa	0782-648712 rudia.issa@yahoo.com
38.	Godfrey B. Mujairi	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Kongwa	SLP 57, Kongwa	0688-372928 mujairig@gmail.com
39.	Francis Kasambala	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Bahi	SLP 2993, Bahi	0769-801280 fpeto985@gmail.com
40.	Deusdedit Bwoyo	ADFD	MNRT	Dodoma	0688-237500
41.	Alex Choya	Meneja	Pori la Akiba SwagaSwaga	SLP 144, Kondoa	0759-334920
42.	Emmanuela Millanzi	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Mpwapwa	SLP 108, Mpwapwa	0653-200288 emmanuelamillanzi@gmail.com
43.	Theresia Meela	Mfugaji Nyuki	Manyoni	SLP 200, Manyoni	0757-101292
44.	Amosi Ihonde	Mfugaji Nyuki	UNYUSA Group	SLP 60, Manyoni	0785-637188
45.	Juma I. Mchafu	Afisa Nyuki (PBO)	TFS - Manyoni	SLP 161, Manyoni	0755-835667
46.	Fridon D. Kikasi	Kaimu Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Manyoni	SLP 60, Manyoni	0755-884361
47.	Evaristus Desouza	Afisa Nyuki (CBO)	Dodoma Jiji	SLP 1249 Dodoma	0784-308358

S/N	Jina Kamili	Cheo	Taasisi anayotoka	Anwani Kamili	Namba ya simu na anuani ya barua pepe
48.	Ally I. Mpima	Afisa Nyuki (DBO)	Halmashauri ya Wilaya ya Chemba	SLP 830, Chemba	0712-046382
49	Augustino Semkurito	Mrajisi Msaidizi	Tume ya Ushirika	SLP 201, Dodoma	0713-458165
50.	Faraja Mmasa	Mchumi	DPP - MNRT	Dodoma	0658-494977
51.	Emiliana Mallya	Mhasibu	TaFF	SLP 1764, Dodoma	0754-673500
52.	Isaya Saitabau	Mhasibu	SULEDO	SLP 02, Kibaya- Kiteto	0783-447660
53.	Christopher Kadendula	Mfanyabiashara	Central Park Bees LTD	SLP 4105, Dodoma	0756-562098 chris@ swahilihoney. co.tz
54.	Salome Emmanuel	TBS Officer	TBS Central zone	SLP 2456, Dodoma	salome. emmanuel@tbs. go.tz
55.	Sileja Lushibika	TBS Officer	TBS Central zone	SLP 2456, Dodoma	0714-426322
56.	Aziza R. Mumba	Assistant Adm Secretary	RS – Dodoma	Dodoma	0784-994615
57.	Fabian F. Mwakalile	Msaidizi Mhe. Pinda/Mfugaji		Dodoma	0783-238090
58.	Magdalena R. Muya	Research and Training Officer (RTO)	Research and Training Unit (RTU) - MNRT	SLP 1351 Dodoma	0765-687714
59.	Semu D. Lugejuna	Principal	BTI	SLP 62, Tabora	0754-569945
60.	Dr Nesphor Lesio	Researcher	TAWIRI	SLP 661, Arusha	0713953344

S/N	Jina Kamili	Cheo	Taasisi anayotoka	Anwani Kamili	Namba ya simu na anuani ya barua pepe
61.	Dr Manoko Mkabwa	Lecturer	UDSM	SLP 35060, Dar Es Salaam	0784315230
Wasaidizi					
62.	Evord G. Kessy	Dereva	OR-TAMISEMI	Dodoma	0767-768130
63.	Bruno Mgaiwa	Dereva	MNRT	SLP 1351, Dodoma	0767-654463
64.	Mfaume H. Kambi	Dereva	MNRT	Dodoma	0717-072082
65.	Hamisi Abdallah	Dereva	SUA	SLP 3000, Morogoro	0754-881795
66.	Antony Masimanvi	Dereva	TCDC	SLP 201, Dodoma	0754-384905
67.	Emmanuel Tandu	Dereva	TAWA- SwagaSwaga	SLP 144, Kondoa	emmanueltandu@ yahoo.com 0786-420364
68.	Foibe Festo	Secretary	MNRT	SLP 1351, Dodoma	0713-444685
69	Michael Moka	Dereva	MNRT	SLP 1351, Dodoma	0687-837173
70	Ramadhani A. Kapesule	Dereva	MNRT	SLP 1351, Dodoma	0787-180070
71	Meshack Daniel	Dereva	MNRT	SLP 1351, Dodoma	0769-228394
72	Joyce Mhando	POA	MNRT	SLP 1351, Dodoma	0712-183595

Appendix XVIII: Data of bee reserves in the central zone, Tanzania

	Objective I; Policy Statement I							
Area / Institution	Central-Government/ Government Agency (Number)	Size (ha)	District/ local government (Number)	Size (ha)	Village (Number)	Size (ha)	Private (Number)	Size (ha)
Kiteto								
Kiteto DC	0	0	0		12		0	
Embwani-BK Group-Kiteto DC	0	0	0		0		0	
SULEDO-Kiteto	0	0	0		10		0	
Sub total	0	0	0		22		0	
Manyoni								
Manyoni DC	0	0	0		6		2	5
Itigi DC	0	0	0		0		2	150
TFS Central	1	2,162	0		0		0	
Beekeeper-Manyoni-Amosi Ihonde	0	0	0		2		0	
Sub total	1	2162.2	0		8		4	155
Singida								
Singida DC	0	0	0		1		1	
Singida MC	0	0	0		0		0	
Sub total	0	0	0		1		1	
Mkalama								
Mkalama DC	0	0	0		0		0	
Sub total	0	0	0		0		0	
Ikungi								
Ikungi DC	0	0	0		0		0	

	Objective I; Policy Statement I							
Area / Institution	Central-Government/ Government Agency (Number)	Size (ha)	District/ local government (Number)	Size (ha)	Village (Number)	Size (ha)	Private (Number)	Size (ha)
Beekeeper- Isuna A Abdala Salum-Ikungi	0	0	0		0		1	
Beekeeper- Saimoni Mpembe- Ikungi	0	0	0		0		0	
Sub total	0	0	0		0		1	
Bahi								
Bahi DC	0	0	0		0		0	
Sub total	0	0	0		0		0	
Dodoma								
Dodoma municipal	0	0	0		0		0	
Sub total	0	0	0		0		0	
Chamwino								
Chamwino DC	0	0	0		7	400	0	
Sub total	0	0	0		7	400	0	
Kondoa								
Kondoa DC	0	0	0		0		0	
BK-Kondoa Investment	0	0	0		0		4	
TABEDO	0	0	0		6		4	
Sub total	0	0	0		6		8	
Kongwa								
Kongwa DC	0	0	2	4168	4	272	14	21
Sub total	0	0	2	4168	4	272	14	21
Chemba								

	Objective I; Policy Statement I							
<i>Area / Institution</i>	<i>Central- Government/ Government Agency (Number)</i>	<i>Size (ha)</i>	<i>District/ local government (Number)</i>	<i>Size (ha)</i>	<i>Village (Number)</i>	<i>Size (ha)</i>	<i>Private (Number)</i>	<i>Size (ha)</i>
Chemba DC	4	2,644	4	4593	4	6269	0	
Gwandi BK group	0	0	0		0		7	
Mwailanje BK group	0	0	0		1		1	
Sub total	4	2,644	4	4593	5	6269	8	
TOTAL	5	4,806	6	8761	53	6,941	36	175

Appendix XIX: TFS apiaries, location and production as per 2018/2019 records

Zone/ Plantation	Total Apiaries	Total Bee hives	Hives Colonized	Hives Not Colonized	Harve- sted Hives	Production (kg)	
						Honey	Beeswax
Eastern	13	792	403	389	-	316.5	-
Central	27	2790	1736	1054	1179	11925	394
Western	25	2505	1342	1163	1342	9924	430.6
Northern	24	1131	586	545	169	1124	36.25
Southern	21	1468	602	866	433	1468.2	67.4
Southern Highlands	5	1786	718	1068	353	1628	116
Lake	6	512	368	144	139	714.5	54.6
Plantations	36	1952	1103	849	-	2981	243
TOTAL	157	12,936	5,516	4,915	3,615	29,765	1,658

Appendix XX: List of private and NGOs apiaries in central zone, Tanzania

<i>District</i>	<i>No. of Private apiaries</i>	<i>No. of NGOs apiaries</i>
Kiteto DC	8	18
Manyoni DC	2	0
Itigi DC	12	0
Manyoni DC	2	0
Singida DC	1	11
Singida MC		5
Ikungi DC	2	1
Bahi DC	0	14
Dodoma municipal	0	2
Kondoa DC	8	1
Kongwa DC	14	4
Chemba DC	41	6
TOTAL	90	62

Appendix XXI: List of honey producers and processors certified by TBS

S/N	NAME	REGION	LOCATION	PRODUCT	STANDARD
1	International Health Food Association	Arusha	Arusha	Honey	851:2006
2	Mama's Fresh Produce	Dar-es-Salaam	Dar-Es-Salaam	Honey	851:2006
3	Afri Youth Development Services	Arusha	Arusha	Honey	851:2006
4	Kasulu Beekeepers Cooperative Society	Kigoma	Kigoma	Honey	851:2006
5	Ndimila Enterprises	Rukwa	Rukwa	Honey	851:2006
6	Rukwa Food Processors Assoc. (Rufopa)	Rukwa	Rukwa	Honey	851:2006
7	Mariet Natural Food Products	Iringa	Iringa	Honey	851:2006
8	Beekeeping Development (T) Ltd	Arusha	Arusha	Honey	851:2006
9	Anepa Food Products Ltd	Dar-es-Salaam	Dar-Es-Salaam	Honey	851:2006
10	Jeam's Products	Ruvuma	Ruvuma	Honey	851:2006
11	Honey Care Africa (T) Ltd	Dar-es-Salaam	Dar-Es-Salaam	Honey	851:2006
12	Miyombo Golden Resource Company	Dar-es-Salaam	Dar-Es-Salaam	Honey	851:2006
13	Eliama Family Mfugaji Nyuki	Mara	Mara	Honey	851:2006
14	Honey King Limited	Dar-es-Salaam	Dar-Es-Salaam	Honey	851:2006
15	Golden Food Products	Arusha	Arusha	Honey	851:2006
16	Chema	Kagera	Karagwe	Honey	851:2006
17	Sf Khamis Traders	Dar-es-Salaam	Dar-Es-Salaam	Honey	851:2006

S/N	NAME	REGION	LOCATION	PRODUCT	STANDARD
18	C.R Kajuna & Co.	Kilimanjaro	Moshi	Honey	851: 2006
19	P&P Bee Farm	Dodoma	Dodoma	Honey	851: 2006
20	Haiba Ya Afrika Ltd	Dar-es-Salaam	Dar-Es-Salaam	Honey	851: 2006
21	Savannah Honey Ltd	Kilimanjaro	Moshi	Honey	851: 2006
22	Inyonga Beekeepers Association (Iba)	Rukwa	Rukwa	Honey	851: 2006
23	Ushirika Wa Wafuga Nyuki Buyungu	Kigoma	Kakonko	Honey	851: 2006
24	Ushirika Wa Wafuga Nyuki Kibondo	Kigoma	Kibondo	Honey	851: 2006
25	Nayopeker Agro Commodities Company	Dar-Es-Salaam	Dar-Es-Salaam	Honey	851: 2006
26	Cg Honey T. Ltd	Dar-es-Salaam	Dar-Es-Salaam	Honey	851: 2006
27	Afrilife Products Ltd	Shinyanga	Shinyanga	Honey	851: 2006
28	Central Park Bees Ltd	Dodoma	Dodoma	Honey	851: 2006
29	Kanija & Sons Enterprises	Tabora	Tabora	Honey	851: 2006
30	Hai Beekeeping Co – Operative Society	Kilimanjaro	Bomang'ombe	Honey	851: 2006
31	Mavuno Products Ltd	Kagera	Karagwe	Honey	851: 2006
32	Worker Bees Africa	Dar-es-Salaam	Vingunguti	Honey	851: 2006

Appendix XXII: List of beekeeping equipment suppliers in the central zone

<i>Institution/Stakeholder</i>	<i>Appropriate Hives (Number)</i>	<i>Name</i>	<i>Protective gears (Number)</i>	<i>Name</i>	<i>Packaging materials (Number)</i>	<i>Name</i>	<i>Processing equipment (Number)</i>	<i>Name</i>
Kiteto -MANYARA REGION								
Kiteto DC	2	CORDS (non-operating)						
		SULEDO						
Embwani-BK Group-Kiteto DC	0		0		0		0	
SULEDO-Kiteto	0		0		0		0	
Sub total	2		0		0		0	
Manyoni – SINGIDA REGION								
Manyoni DC			1	SIDO Singida			1	SIDO
Itigi DC								
TFS Central	0		0		0		0	
Beekeeper-Manyoni-Amosi Ihonde	1	HURUMA	0		0		0	
Processor - J.Mchafu	1	TFS-Kondoa						

<i>Institution / Stakeholder</i>	<i>Appropriate Hives (Number)</i>	<i>Name</i>	<i>Protective gears (Number)</i>	<i>Name</i>	<i>Packaging materials (Number)</i>	<i>Name</i>	<i>Processing equipment (Number)</i>	<i>Name</i>
Trader/Processor-Theresia	1	BDTL	0		0		0	
		SIDO Singida						
Sub total	3		1		0		1	
Singida								
Singida DC	0		0		0		0	
Singida MC	2	SIDO	1	SIDO				
		SYECCOS		SYECCOS				
Sub total	2		1		0		0	
Mkalama								
Mkalama DC	0		0		0		0	
Sub total	0		0		0		0	
Ikungi								
Ikungi DC	1	Future Dev initiatives	1	Future Development initiatives	0		0	
Beekeeper-Isuna A Abdala Salum-Ikungi	0		0		0		0	
Beekeeper- Saimoni Mpembee-Ikungi	0		0		0		0	

<i>Institution / Stakeholder</i>	<i>Appropriate Hives (Number)</i>	<i>Name</i>	<i>Protective gears (Number)</i>	<i>Name</i>	<i>Packaging materials (Number)</i>	<i>Name</i>	<i>Processing equipment (Number)</i>	<i>Name</i>
Sub total	1		1		0		0	
Bahi - DODOMAREGION								
Bahi DC	0		0		0		0	
Sub total	0		0		0		0	
Dodoma								
Dodoma municipal	2	SIDO Dodoma	1	SIDO Dodoma				
		VETA						
Sub total	2		1					
Chamwino								
Chamwino DC	0							
Sub total	0							
Kondoa								
Kondoa DC	0		0		0		0	
BK-Kondoa Investment	0		0		0		0	
TABEDO	1	MEMBA Investment	0		0		0	


<i>Institution / Stakeholder</i>	<i>Appropriate Hives (Number)</i>	<i>Name</i>	<i>Protective gears (Number)</i>	<i>Name</i>	<i>Packaging materials (Number)</i>	<i>Name</i>	<i>Processing equipment (Number)</i>	<i>Name</i>
		TFS-Kondoa						
Processor/Trader-E.Wiso	0		0		0		0	
Sub total	1		0		0		0	
Kongwa								
Kongwa DC	0		0		0		0	
Sub total	0		0		0		0	
Chemba								
Chemba DC	0		0		0		0	
Gwandi BK group	3	MALIASILI	2	MALIASILI			1	FARKWA ABP
		CHULI		FARKWA ABP				
		FARKWA ABP						
Mwailanje BK group	0		0		0		0	
Sub total	3		2		0		1	
TAMISEMI								
Sub total								
FBD	2	The hive,	2	The hive	1	The hive	0	

<i>Institution / Stakeholder</i>	<i>Appropriate Hives (Number)</i>	<i>Name</i>	<i>Protective gears (Number)</i>	<i>Name</i>	<i>Packaging materials (Number)</i>	<i>Name</i>	<i>Processing equipment (Number)</i>	<i>Name</i>
		African Bee culture		African Bee culture				
		BDTL						
Sub total	2		2		1		0	
TBS Central								
Sub total								
TOTAL	16		7		1		2	

Appendix XXIII: List of honey processing industries (small-medium) in Tanzania

S/N	Name of Processing Industries	Region
1	International Health Food Association.	Arusha
2	Mama's Fresh Produce	Dar es Salaam
3	Afri Youth Development Services	Arusha
4	Kasulu Beekeepers Cooperative Society	Kigoma
5	Ndimila Enterprises	Rukwa
6	Rukwa Food Processors Assoc. (Rufopa)	Rukwa
7	Mariet Natural Food Products	Iringa
8	Beekeeping Development (T) Ltd	Arusha
9	Anepa Food Products Ltd	Dar Es Salaam
10	Jeam's Procutts	Ruvuma
11	Honey Care Africa (T) Ltd	Dar Es Salaam
12	Miyombo Golden Resource Company	Dar Es Salaam
13	Eliama Family Mfugaji Nyuki	Mara
14	Honey King Limited	Coast
15	Golden Food Products	Arusha
16	Chema	Karagwe
17	Sf Khamis Traders	Dar Es Salaam
18	C.R Kajuna & Co.	Moshi
19	Haiba Ya Afrika Ltd	Dar Es Salaam
20	Savannah Honey Ltd	Moshi
21	Inyonga Beekeepers Association (IBA)	Rukwa
22	Ushirika wa Wafuga Nyuki Buyungu	Kigoma
23	Ushirika wa Wafuga Nyuki Kibondo	Kigoma
24	Nayopeker Agro Commodities Company	Dar Es Salaam
25	Cg Honey T. Ltd	Dar Es Salaam
26	Afrilife Products Ltd	Shinyanga

S/N	Name of Processing Industries	Region
27	Central Park Bees Ltd	Dodoma
28	Kanija & Sons Enterprises	Tabora
29	Hai Beekeeping Co – Operative Society	Bomang’ombe
30	Mavuno Products Ltd	Karagwe
31	Worker Bees Africa	Vingunguti
32	Manyoni Honey And Beeswax Processing Plant	Manyoni
33	Sido-Singida Honey Processing Indurstry	Singida
34	Seyyecos Honey Processing	Singida
35	Upendo Honey Processing Industry	Kigoma
36	Suledo	Manyara
37	Igembesabo	Dodoma

A decorative background featuring a honeycomb pattern of hexagons in various shades of orange and yellow, arranged in a staggered grid.

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