



A photo showing a frame for bee hives hanging on a tree branch in a Forest Reserve. (LINDA SHIO)

BEEKEEPING FOR CONSERVATION OF NATURAL TREES AND FOREST RESERVES (Tanzania, República Unida de)

UFUGAJI NYUKI

DESCRIPCIÓN

Beekeeping is an activity which involves maintenance of bee colonies by using man-made hives within a selected forest area which provides the required feed and habitat resources required by bees. Through beekeeping, trees are conserved as they provide flowers hence ensuring feeds for bees. Beekeeping is used as an approach of protecting forest reserves against encroachments. Bee products, produced within the value chain, improve the livelihoods of beekeepers and communities at large while conserving the environment at the same time.

Beekeeping is an activity which involves care and management of honeybees for production of bee products, mostly honey and bee-wax. Beekeeping is an environmentally friendly activity ensuring conservation of trees and other forest resources protected through it. Therefore, beekeeping is undertaken for two major purposes which are:

- Production of bee products through which livelihoods of beekeepers and communities at large are improved and;
- Protection of trees and thereby, forest water resources.

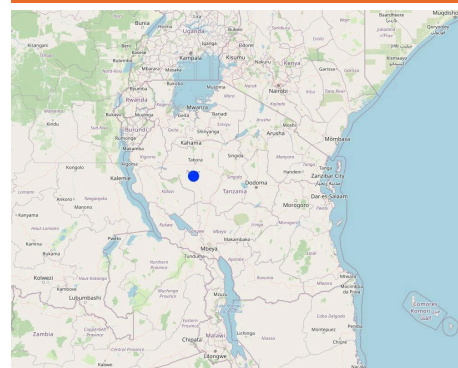
Beekeeping is largely dictated by weather/climatic conditions; hence it is very crucial for the beekeeper to understand the rhythm of various seasons for successful beekeeping. In this approach, trainings were provided to beekeepers in a community in Tabora Region, Sikonge District, on modern beekeeping techniques and skills which involve the use of modern hives and tools for increased production of bee products. Beekeepers were trained on:

- Measures which can be taken to ensure successful honey and wax production and;
- Measures required to adapt to impacts on bees from climate change.

Representatives from the Miombo Beekeeping Group (user group) are experienced beekeepers who have been in the field for a long period. Land users/beekeepers liked the approach because beekeeping does not require a lot of time due to its seasonal nature. Therefore, a beekeeper can have, besides beekeeping activities, ample time for carrying out other production activities, e.g. agricultural activities. Also, beekeeping does not require large areas of land and beekeeping can therefore, be integrated with other activities.

Insufficient capital for accessing modern hives and tools is one of the hinderances which make it hard for some of beekeepers to adopt improved beekeeping approaches.

LUGAR



Lugar: SIKONGE DISTRICT, TABORA, Tanzania, República Unida de

Georreferencia de sitios seleccionados

- 32.72368, -5.6255

Dato de inicio: n.d.

Año de conclusión: n.d.

Tipo de Enfoque

- ☒ tradicional/ local
- ☐ iniciativa local reciente/ innovadora
- ☐ proyecto/ basado en un programa



Training to beekeepers on value addition of bee products by a beekeeping officer. (OCTAVIAN MLENGA)

METAS DEL ENFOQUE Y ENTORNO FACILITADOR

Propósitos/ objetivos principales del Enfoque

1. Beekeeping is practiced as a method of conservation of trees and other potential resources against encroachment from illegal timber harvesting, specifically in forest reserves.
2. Beekeeping is further developed for diversification of income sources so as to have access to other bee products besides honey which is commonly used as food and medicine.
3. On-farm beekeeping ensures pollination of crops thereby increasing crop yields.

Condiciones que facilitan la implementación de la/s Tecnología/s aplicadas bajo el Enfoque

- **Normas y valores sociales/ culturales/ religiosos:** Beekeeping being one of the traditional practices in this area, minimum energy and resources are required on promoting and sensitizing individuals to undertake beekeeping as they are experienced with it. Knowledge transfer is shared from one generation to another within families as members are engaged in management of beehives and other beekeeping activities throughout.
- **Entorno institucional:** For effective management of beekeeping activities, institutions have placed beekeeping officers for administration and supervision of beekeeping activities by linking beekeepers to the Government.
- **Colaboración/ coordinación de actores:** Beekeepers tend to form groups within their communities, through which they undertake their beekeeping activities. Through such beekeeping groups, they are easily reached by the government for trainings, technical support and financial grants that are given to groups who apply for projects specifically on beekeeping activities. Various stakeholders collaborate with the government by providing technical support to beekeepers in terms of skills and tools required.
- **Marco de trabajo legal (tenencia de tierra, derechos de uso de tierra y agua):** In Tanzania, beekeeping is allowed to be undertaken in forest reserves and bee reserves. Beekeepers are granted with an entry permit into reserves for undertaking their beekeeping activities. Because of the presence of diverse plant species that flower at different seasons and also the security of their beehives, beekeepers prefer beekeeping in protected areas.
- **Políticas:** Beekeeping is one among the Departments within the Ministry of Natural Resources and Tourism which has policies and regulations in place.
- **Gobernanza de tierras (toma de decisiones, implementación y aplicación):** The presence of laws that govern management of forest and bee reserves as well as by-laws, against encroachment by illegal human activities, ensures the security of natural resources required by bees.
- **Conocimiento de MST, acceso a apoyo técnico:** Hands-on trainings to beekeepers are provided through extension services by beekeeping officers. Also, the presence of institutions in the country which provide technical knowledge on modern beekeeping techniques ensures professionalism and sustainable beekeeping practices.
- **Carga de trabajo, disponibilidad de mano de obra:** Beekeeping activity requires manpower for hives making and for hanging hives on trees. Here, beekeepers tend to assist among themselves. Women who undertake on-tree beekeeping activities depend on men during the time of taking up/down of bee hives.

Condiciones que impiden la implementación de la/s Tecnología/s aplicadas bajo el Enfoque

- **Disponibilidad/ acceso a recursos y servicios financieros :** Beekeepers do not have reliable access to financial resources (capital) which could enable them to acquire modern beekeeping tools and production facilities. They cannot access loans from financial institutions for undertaking beekeeping activities as beekeeping relies on weather/climatic conditions for productions, whereas beekeepers cannot be assured of their productions in terms of quantities.
- **Mercados (para comprar insumos, vender productos) y precios:** Beekeepers do not have a readily available market of their products. Because of this, they are forced to sell their products through middlemen (traders). This results in lower returns to producers. Also, because of financial constraints, farmers do not have access to modern beekeeping tools and facilities for increased production and product quality assurance.
- **Otros:** Climatic changes can have impacts on beekeeping activities, hence affecting production. For instance, during heavy rains flowers tend to fall down from trees thus affecting bee feed availability resulting in lowered honey production. Also, when the rain is too small, the flower production on trees is minimum resulting in low feed availability for bees.

PARTICIPACIÓN Y ROLES DE LAS PARTES INTERESADAS INVOLUCRADAS

Partes interesadas involucradas en el Enfoque y sus roles

¿Qué partes interesadas/ entidades implementadoras estuvieron involucradas en el Enfoque?	Especifique las partes interesadas	Describa los roles de las partes interesadas
usuarios locales de tierras/ comunidades locales	Beekeepers from a beekeeping group Known as MIYOMBO GROUP were involved in application of this approach.	The role of the involved user group in this approach includes undertaking beekeeping activities for conservation of trees and natural resources. They are experienced with the practice and therefore they can undertake beekeeping.
gobierno nacional (planificadores, autoridades)	The National Government under its agency known as Tanzania Forest Services Agency	Providing technical support by providing skills and modern tools for beekeeping activities.

Involucramiento de los usuarios locales de tierras/ comunidades locales en las distintas fases del Enfoque

	ninguno pasivo apoyo externo interactivo auto-movilización	
iniciación/ motivación	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Beekeepers at individual levels are mobilized to form formal beekeeping groups through which participatory analysis of the beekeeping activities is done by collaborating with the beekeeping officers and local administrative units. Thereafter, they develop plans which provide guidance and assistance to beekeepers especially to the new actors in the sector.
planificación	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Beekeeping activities are planned by the beekeeper who is provided with technical support from beekeeping officers specifically on techniques and skills that can be employed for increased production of bee products.
implementación	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Beekeeping involves the use of modern skills and techniques which are provided to beekeepers through government institutions and agencies. For instance, Tanzania Forest Services Agency under the Ministry of Natural Resources and Tourism, are mandated by the Government on supervision of all forest and bee resources towards ensuring sustainable production. The agency collaborates with beekeeping groups during implementation of beekeeping activities.
monitoreo y evaluación	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Government agencies facilitate monitoring/evaluation of beekeeping activities, production and marketing of products. The government possess a database of beekeepers in all the districts, which enables tracing of the specific source of bee products from producers and their locations.

Flujograma

La toma de decisiones en la selección de Tecnología MST

Las decisiones fueron tomadas por

- ☐ solamente usuarios de tierras (autoiniciativa)
- ☐ principalmente usuarios de tierras con el apoyo de especialistas MST
- ☒ todos los actores relevantes, como parte de un enfoque participativo
- ☐ principalmente por especialistas MST en consulta con usuarios de tierras
- ☐ solo por especialistas MST
- ☐ por políticos/ líderes

La toma de decisiones se basa en

- ☐ la evaluación de conocimiento MST bien documentado (la toma de decisiones se basa en evidencia)
- ☐ hallazgos de investigaciones
- ☒ la experiencia personal y opiniones (no documentadas)

APOYO TÉCNICO, FORTALECIMIENTO INSTITUCIONAL Y GESTIÓN DEL CONOCIMIENTO

Las siguientes actividades o servicios fueron parte del enfoque

- ☒ Construcción de capacidades / capacitación
- ☒ Servicio de asesoría
- ☒ Fortalecimiento institucional (desarrollo institucional)
- ☒ Monitoreo y evaluación
- ☐ Investigación

Construcción de capacidades/ capacitación

Se proporcionó capacitación a las siguientes partes interesadas

- ☒ usuarios de tierras
- ☐ personal de campo/ consejeros

Forma de capacitación

- ☐ en el contexto de trabajo de agricultor a agricultor
- ☒ áreas de demostración
- ☒ reuniones públicas
- ☐ cursos

Temas avanzados

1. MODERN BEEKEEPING PRACTICES AND TOOLS FOR SUSTAINABLE PRODUCTION OF BEE PRODUCTS.
2. VALUE ADDITION OF THE PRODUCED BEE PRODUCTS FOR IMPROVED LIVELIHOOD AND INCOME GENERATION.

Servicio de asesoría

Se proporcionó servicio de asesoría

- ☒ en los campos de los usuarios de tierras
- ☐ en centros permanentes

Trainings are provided to beekeepers at their local communities, within their groups (producer organizations), which consist of members who have the common interest on beekeeping activities.

Fortalecimiento institucional

Se fortalecieron/ establecieron instituciones

- ☐ no
- ☐ sí, un poco
- ☐ sí, moderadamente
- ☒ sí, mucho

en el siguiente nivel

- ☒ local
- ☐ regional
- ☒ nacional

Describa la institución, los roles y las responsabilidades, miembros, etc.

Tanzania Forest Services Agency, a government agency mandated by the government to supervise sustainable productions of forest and bee products. In this approach, the agency has been strengthened by collaborating with beekeepers who ensure sustainable protection of forest resources as well as production of bee products. Also, the local government around the area where beekeeping approach is undertaken has been strengthened through livelihood improvement of the community.

Tipo de apoyo

- ☒ financiero
- ☒ construcción de capacidades/ entrenamiento
- ☐ equipo

Detalles adicionales

The Tanzania Forest Fund provides technical and financial support to beekeeping groups which have written up projects upon their call on project write ups, specifically on beekeeping and forest conservation. Modern beekeeping skills and techniques are offered to beekeepers by government agencies/institutions that are related to beekeeping and marketing.

Monitoreo y evaluación

Beekeeping activities can be monitored and evaluated through the data base containing a register of beekeepers and their productions.

FINANCIAMIENTO Y APOYO MATERIAL EXTERNO

Presupuesto anual en dólares americanos para el componente MST

- ☐ < 2,000
- ☒ 2,000-10,000
- ☐ 10,000-100,000
- ☐ 100,000-1,000,000
- ☐ > 1,000,000

Precise annual budget: n.d.

- Own source/savings of beekeepers - Financial institutions
- Government grants

Los siguientes servicios o incentivos fueron proporcionados a los usuarios de las tierras

- ☒ Apoyo financiero/material proporcionado a los usuarios de tierras
- ☒ Subsidios para insumos específicos
- ☐ Crédito
- ☒ Otros incentivos o instrumentos

Apoyo financiero/material proporcionado a los usuarios de tierras

Technical support from one financial institution within the community, (National Microfinance Bank); which supported 2 beekeeping groups with 50 modern beehives for each group and protective cloths for increased production of bee products.

equipo: maquinaria

The Government provides subsidies to beekeepers by providing them with modern machines which can be used to ease operations and processing of bee products. The only condition to receive the subsidy is that beekeepers should be within a formal group, and they receive the subsidy in terms of materials and not finance. There is no any returns required from beekeepers to the government on this subsidy provided by the Government.

parcialmente financiado
totalmente financiado



equipo: maquinaria: herramientas

Modern tools are provided to beekeepers by the Government for easy undertaking of their beekeeping activities. These includes tools like smokers, beehives, protective clothing as well as packaging materials. There is no any returns that is required from the beekeepers to the Government after being given the tools.



El trabajo de los usuarios de las tierras fue

- ☒ voluntario?
- ☐ comida por trabajo?
- ☐ pagado en efectivo?
- ☐ recompensado con otro tipo de apoyo material?

Otros incentivos o instrumentos

Existence of a project that works on this community, dealing with the beekeeping value chain activities, from production to harvesting of bee products promotes and ensures sustainable productions of bee products with quality adherence.

ANÁLISIS DE IMPACTO Y COMENTARIOS DE CONCLUSIÓN

Impactos del Enfoque

	No	Sí, un poco	Sí, moderadamente	Sí, mucho
¿El Enfoque empoderó a los usuarios locales de tierras, mejoró el involucramiento de las partes interesadas? The approach has united users (beekeepers) with Government agencies, institutions and NGO's who empower them through technical and financial support.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
¿El Enfoque facilitó la toma de decisiones basada en evidencia? Beekeeping ensures protection of natural forest/tree resources. This facilitates decision making of the Government towards promoting and enhancing beekeeping activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque ayudó a los usuarios de tierras a implementar y mantener Tecnologías MST? Beekeeping, one of the environmental conservation practices ensures SLM & SFM practices, because trees i.e flora species are conserved as they provide bee feed and bee habitats.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque mejoró la coordinación e implementación efectiva en costos de MST? Beekeeping, is an environmentally friend activity with low running cost.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque movilizó/mejoró el acceso a recursos financieros para implementar MST? Through beekeeping groups, support can easily be attained from the Government (Tanzania Forest Fund) and institutions such as banks and other NGO's.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque mejoró el conocimiento y capacidades de los usuarios para implementar MST? Improved knowledge of beekeepers leads to more products and enables SFM (sustainable forest management) practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque construyó/ fortaleció instituciones, colaboración entre partes interesadas? Through beekeeping, agencies and institutions that are involved in production and marketing of bee products collaborate. For instance, honey produced is used as food, this will bring on board the agency dealing with food health security.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque empoderó a grupos en desventaja social y económica? Tanzania Forest Fund provide grants to beekeeping groups, when members unite and create a group, write up their project they can be facilitated as well with regard to beekeeping and conservation activities.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque mejoró la equidad de género y empoderó a las mujeres y niñas? Women also participate in beekeeping activities and honey production but not to a large scale as compared to men. This is because, this activity is preferred to be undertaken in forest reserves which are far from homes/villages and therefore making it unease for women participation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque alentó a jóvenes/ la siguiente generación de usuarios de tierras a involucrarse con MST? Youth are fully engaged in beekeeping activities by assisting throughout the whole process thus learning beekeeping as well.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque resultó en mejor seguridad alimentaria/ mejoró la nutrición? Bee products that are produced are sold and therefore providing income to the family which ensures food accessibility.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque llevó a un acceso mejorado a tierra y saneamiento?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
¿El Enfoque llevó a oportunidades de empleo, ingresos? Beekeeping provides employment opportunities to the beekeeper and other individuals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Motivación principal del usuario de la tierra para implementar MST

- ☒ producción incrementada
- ☒ incremento de la renta(bilidad), proporción mejorada de costo-beneficio
- ☐ reducción de la degradación de la tierra
- ☐ reducción del riesgo de desastres naturales
- ☐ carga de trabajo reducida
- ☒ pagos/ subsidios
- ☐ reglas y reglamentos (multas)/ aplicación
- ☐ prestigio, presión social/ cohesión social
- ☐ afiliación al movimiento/ proyecto/ grupo/ redes
- ☐ conciencia medioambiental
- ☐ costumbres y creencias, moral
- ☐ conocimiento y capacidades mejorados de MST
- ☐ mejoramiento estético
- ☐ mitigación de conflicto

Sostenibilidad de las actividades del Enfoque

¿Pueden los usuarios de tierras sostener lo que se implementó mediante el Enfoque (sin apoyo externo)?

- ☐ no
- ☒ sí
- ☐ incierto

Beekeepers use locally available materials for undertaking their beekeeping activities from hives construction to honey processing.

CONCLUSIONES Y LECCIONES APRENDIDAS

Fortalezas: perspectiva del usuario de tierras

- Provides sources of income to the family through the produced bee products.
- Access to bee products which are used as food, medicines and sale as industrial ingredients of various products.
- Pollination of crops when practicing on-farm beekeeping.

Fortalezas: punto de vista del compilador o de otra persona recurso clave

- Effective means of conservation of trees and natural resources.
- Ensures livelihoods improvements through diversified sources of household income.
- A way of maintaining the traditional/cultural practices that have been practiced from previous generations.

Debilidades/ desventajas/ riesgos: perspectiva del usuario de tierras cómo sobreponerse

- Climatic changes which affects beekeeping production. Beekeepers should be capacitated with skills on how to adapt to climate changes for assured production.
- Encroachments by illegal human activities in potential areas for beekeeping affecting productions. Protections of forest and bee reserves should be strengthened so as to ensure bee feed availability.

Debilidades/ desventajas/ riesgos: punto de vista del compilador o de otra persona recurso clave cómo sobreponerse

- Women participation in beekeeping productions within the value chain is still very low as compared to men. Promote on-farm beekeeping to women so that they can also participate in the production of bee products. Women should be influenced to participate on beekeeping activities.
- Lack of enough capital by beekeepers for upscaling beekeeping practices in a modern way. Linking beekeepers to markets that will assure them good income and profit generation so to expand their activities and apply modern tools such as hives for increased productions.

REFERENCIAS

Compilador

LINDA SHIO

Editors

Revisado por

Udo Höggel

Fecha de la implementación: 19 de noviembre de 2024

Últimas actualización: 22 de enero de 2025

Personas de referencia

LINDA SHIO (shiolinda11@gmail.com) - co-compiler

Descripción completa en la base de datos de WOCAT

https://qcat.wocat.net/es/wocat/approaches/view/approaches_7416/

Datos MST vinculados

Technologies: Forest Beekeeping https://qcat.wocat.net/es/wocat/technologies/view/technologies_1360/

La documentación fue facilitada por

Institución

- TANZANIA FOREST SERVICES AGENCY (TFS)

Proyecto

- Global coordination project for the SFM Dryland Sustainable Landscapes Impact Program (GEF-FAO / DSL-IP)

Vínculos a la información relevante disponible en línea

- HONEYBEE MANAGEMENT THROUGHOUT THE SEASONS: <https://extension.psu.edu/honey-bee-management-throughout-the-seasons>

This work is licensed under [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International](#)

