

The role of FAO in Beekeeping for sustainable agriculture, food security, and rural livelihood and Poverty Alleviation

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Presentation at APIEXPO AFRICA 2018, Abuja, NIGERIA
Held at The International Conference Centre, Abuja
25th -29th September 2018



Importance of Bees in Food & Agriculture: Some Key Facts



Three out of four crops across the globe producing fruits or seeds for human use as food depend, at least in part, on pollinators.

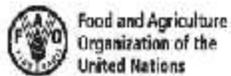
Improving pollinator density and diversity boosts crop yields – pollinators affect 35 percent of global agricultural land, supporting the production of 87 of the leading food crops worldwide.

Pollinator-dependent food products contribute to healthy diets and nutrition.

Pollinators are under threat – sustainable agriculture can reduce risk to pollinators by helping to diversify the agricultural landscape and making use of ecological processes as part of food production.

Safeguarding bees safeguards biodiversity: the vast majority of pollinators are wild, including over 20 000 species of bees.

FAO plays a leading role in facilitating and coordinating the International Pollinators Initiative.



REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD

Why bees matter



The importance of bees and other pollinators for food and agriculture

On the occasion of the First Observance of World Bee Day
20 May 2018
Ljubljana, Republic of Slovenia



Bees Tiny Miracle Workers



- Bees (& other pollinators) have thrived for millions of years, ensuring food security and nutrition, and maintaining biodiversity and vibrant ecosystems for plants, humans and the bees themselves.
- Bees (& other pollinators) are responsible for the production of many of the micronutrient rich fruits, vegetables, nuts, seeds and oils we eat. In fact, close to 75 percent of the world's crops producing fruits and seeds for human consumption depend, at least in part, on pollinators for sustained production, yield and quality.
- In fact, I can't say it better than borrow from the statement made by the FAO's Director General during the First World Bee Day:



FAO's role in support of Beekeeping



- FAO considers beekeeping as one of the most important non timber forest products from the forest that should be promoted for livelihood and sustainable development.
- FAO has, and is extensively supporting countries in beekeeping as a means to fight/alleviate poverty, through a series of Tele-food projects in Africa, Asia, Europe, Latin America and The Caribbean, Technical Cooperation Projects (TCPs), and Trust Fund Projects.
- Technical support is also provided through promotion of information and technology transfer, especially the production of apiculture technical bulletins, as well as the identification of melliferous species in the tropics and sub-tropics for sustainability of the beekeeping industry.



FAO's Support in the Production of Beekeeping Manuals



Beekeeping in Africa
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Bees and their role in forest livelihoods
A guide to the services provided by bees and the sustainable harvesting, processing and marketing of their products

Beekeeping and sustainable livelihoods

Why bees matter

Value-added products from beekeeping

Honeybee diseases and enemies in Asia: a practical guide

Honey bee diseases and pests: a practical guide

Honeybee mites and their control - A selected annotated bibliography

Tropical and sub-tropical apiculture

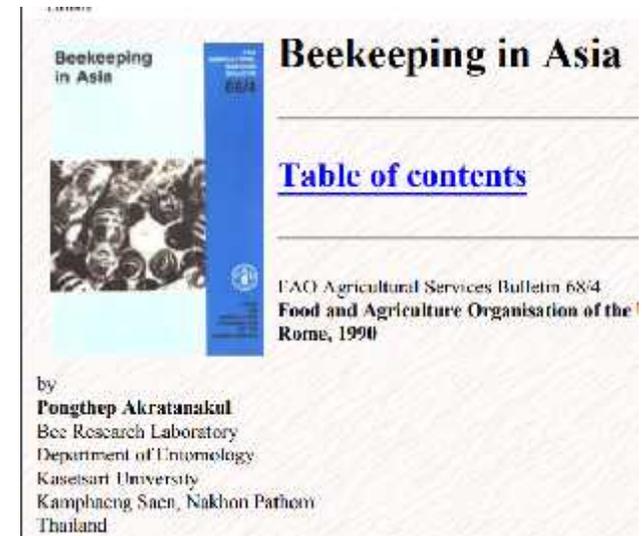
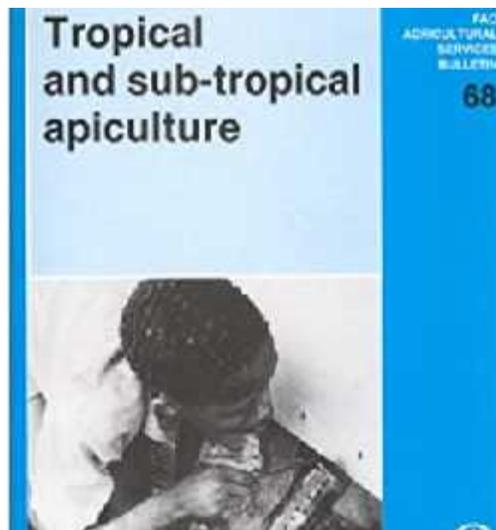
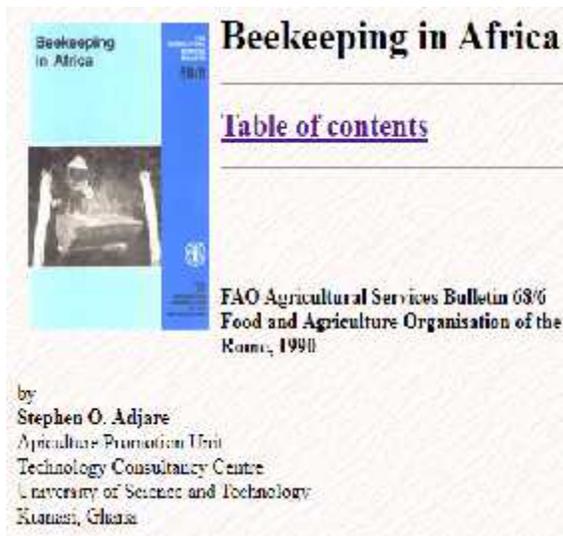
Moving forward in the Implementation of Non-Legally Binding Instruments (NLB) on All types of Insecticides, Herbicides and Pesticides: A contribution to reducing Deforestation and forest degradation
FOREST INSTRUMENT LIBERIA
FARMER LEVEL TECH – NOTE FOR BEGINNER BEEKEEPING
With support of FACILITY

FAO FORESTRY

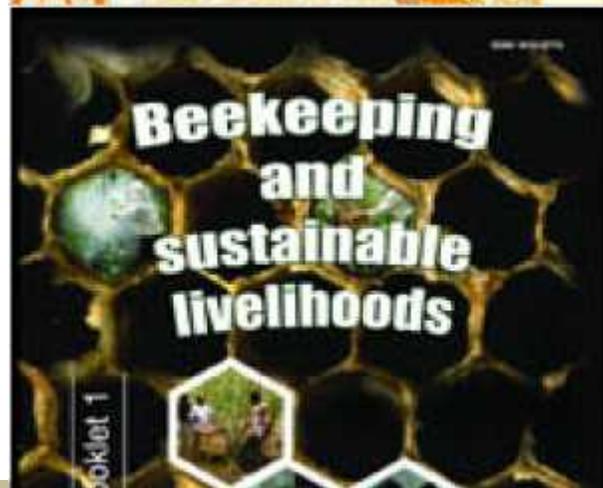
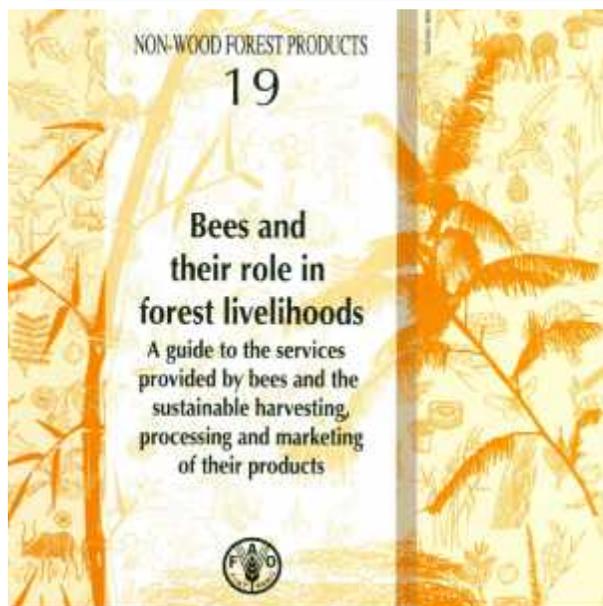
General Manuals on Bee Keeping/Apiculture



These manuals provide general information about bee keeping and strong justifications to apicultural industry. Highlights the importance/uses of bee products (e.g. *honey, beeswax, propolis, pollen, royal jelly, bee venom...*); importance of bees in plant pollination in general, as well as in agricultural economy of most nations.



Bees/Beekeeping and Sustainable Livelihoods



Bees and bee products are essential for sustaining our environment, our agriculture, and provides sustainable livelihoods to many small-scale farmers and other rural people.

Honey is just one of several different products that can be harvested; others include, beeswax, pollen and propolis, royal jelly and venom, and the use of bees in apitherapy.

These books aim to provide an insight into the many ways in which bees and beekeeping contribute to rural livelihoods, and on how to enhance sustainable harvesting and use of apicultural products.



Beekeeping Value Chains



Value-added products from beekeeping



The apiculture industry involves a number of actors/stakeholder (producers and their organizations, processing companies, traders, support agencies/ development NGOs, financiers and government departments), and there is need to understand the roles of each actor along the value chain.

The manual on value-added products from beekeeping could be a valuable reference document for beekeepers that want to add value to their industry.

Bee Pests and Diseases



Honey bees play a vital role in the environment and an important income generating role the apiculture industry but are subject to pest and diseases which must be known by beekeepers.

These manuals on bee pests and diseases contain valuable information to beekeepers that can be used to control bee pests and diseases in order to optimize production and productivity.



Beginner's Manual for Beekeeping (FAO)

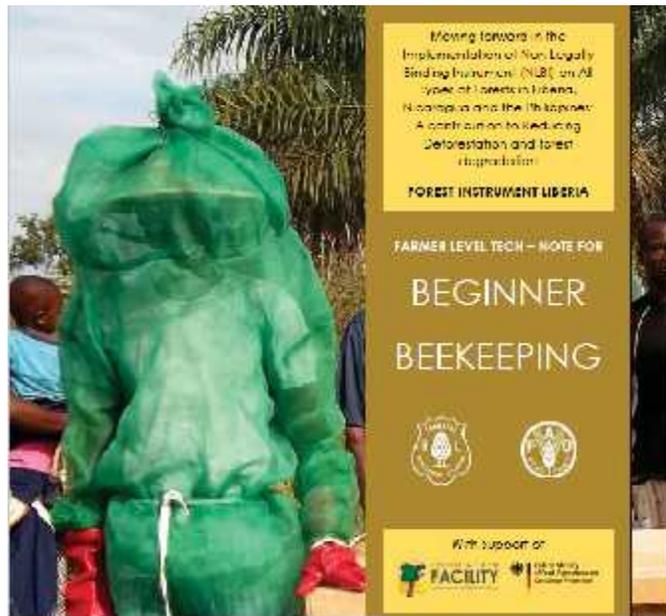


This manual provides simple techniques on beekeeping for beginners. Initially designed for use in Liberia, but can be used by farmers anywhere.

[Farmer Level Tech: Note for Beginner Beekeeping](#)

FAO and Forest Development Authority of Liberia

70 apiculture cooperatives get FAO modern hives boost



Beekeeping in Support of SDGs



POLLINATION AND ZERO HUNGER

What do bees have to do with achieving Zero Hunger, one of the 17 Sustainable Development Goals? Quite a lot, actually. Close to three-quarters of the world's crop species depend, at least in part, on bees and other pollinators, conforming to the major characteristics of the 2030 Agenda for Sustainable Development, nourishing people and nurturing the planet. Pollinators play an essential role in helping to feed a rising world population in a sustainable way [SDG 2] and help maintain biodiversity and a vibrant ecosystem [SDG 15]. They contribute to building resilient livelihoods and creating new jobs, for poor smallholder farmers in particular, satisfying the growing demand for healthy, nutritious food as well as non-food products [SDGs 1 and 8].



The worrying decline in the number of pollinators, largely brought about by intensive agricultural practices, changes in land use, use of pesticides and by more extreme weather events, is related to pest and disease outbreaks, and higher levels of malnutrition and non-communicable diseases, provoking health issues for populations around the world [SDGs 3 and 13].

Already the highest agricultural contributor to yields worldwide, pollination, with improved management, has the potential to increase yield by a quarter [SDG 8]. No wonder there is so much buzz about bees!

Threats to Bees & Other Pollinators



THREATS TO POLLINATORS

Bees and other pollinators are under threat. Present species extinction rates are 100 to 1 000 times higher than normal due to human impacts. Insects will likely make up the bulk of future biodiversity loss with 40 percent of invertebrate pollinator species – particularly bees and butterflies – facing extinction. Though to a lesser degree, vertebrate pollinators (16.5 percent) are also threatened with extinction globally.

Changes in land use and landscape structure, intensive agricultural practices, monocultures and use of pesticides have led to large-scale losses, fragmentation and degradation of their habitats. Pests and diseases resulting from reduced resistance of bee colonies and from globalization, which facilitates the transmission of pests and diseases over long distances, pose a special threat. Furthermore, climate change also has a negative impact. Higher temperatures, droughts, floods, other extreme climate events and changes of flowering time hinder pollination largely by desynchronizing the demand (flowers in bloom) with the supply of service providers (abundant and diverse populations of pollinators).



FAO's Global Action on Pollination Services for Sustainable Agriculture Programme (GAPSSAP)

<http://www.fao.org/pollination/en>



FAO's GAPSSAP exists within the framework of its Strategic Objective for increasing and improving the provision of goods and services from agriculture.

Through the Global Action, FAO is working with partners from a range of sectors (*government, academia, research institutions and global experts*) to move forward the pollinator & pollination agenda (e.g. The [AFRICAN Pollinator Initiative](#)).

EU-ACP project "***Action Against Desertification (AAD)***" has prioritized beekeeping for honey production as an incentive in protecting and managing flowering trees, grasses and shrubs.

The ***Pollination Information Management System, (PIMS)*** has also been established to provide accurate information on managing pollination services of key crops, globally, to farmers, farm advisors and land managers.



Nigeria's Potentials for Apiculture



Nigeria has a diversity of ecological systems from tropical rainforest to savanna ecosystems, and correspondingly a huge biodiversity rich in melliferous species that constitute a backbone for apiculture.

Ayansola et al (2012) documents **49 melliferous** species in the southwestern Nigeria (tropical rainforest), while **Dukku (2011)** catalogues **61 melliferous** species in the Soudan savanna in Nigeria.

FAO can provide documentation for use in the development of apiculture. The conservation and sustainable management of forest ecosystems is necessary to maintain these melliferous species and to promote the apiculture industry.

List of Documents Published by FAO on Beekeeping/Apiculture



- Bees and their role in forest livelihoods. A guide to the services provided by bees and the sustainable harvesting, processing and marketing of their products.
<http://www.fao.org/docrep/pdf/012/i0842e/i0842e00.pdf>
- Why Bees Matter. The Importance of bees and other pollinators for food and agriculture.
<http://www.fao.org/3/I9527EN/i9527en.PDF>
- Tropical and subtropical apiculture. <https://www.amazon.com/Tropical-Sub-Tropical-Apiculture-Agricultural-Services/dp/9251024448>
- Beekeeping and Sustainable Livelihoods. <http://www.fao.org/docrep/006/y5110e/y5110e00.htm#Contents>
- Beekeeping in Africa
- Beekeeping in Asia
- Honeybee Mites and their control: A selected annotated Bibliography.
https://archive.org/details/bub_gb_4tMujhd0sicC
- Value-Added Products from Beekeeping. <http://www.fao.org/docrep/w0076e/w0076e00.htm>
- Honeybee Diseases and enemies in Asia. A practical Guide
- Honeybee Diseases and Pests. A Practical Guide.
- Farmer-Level Tech-Note for Beginner Beekeeping.





Thanks for Listening
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