

BARAKA AGRICULTURAL COLLEGE

BEE KEEPING AND SUSTAINABLE LIVELIHOOD

UNU-IAS

For

2013 RCE Award for Innovative Projects on Education for Sustainable Development

(A case for Baraka Agricultural College)

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BACK GROUND

Baraka Agricultural College promotes 'Sustainable Agriculture and Rural Development' (SARD) as appropriate development strategy in response to the economic, social, environmental and political realities of East Africa. Baraka College therefore endeavours to *provide practical education, research and training in SARD through a responsive curriculum in a changing economic, socio-cultural, environmental and technological development.*

Baraka College is owned by the Catholic Diocese of Nakuru and managed by the Franciscan Brothers on behalf of the diocese. The philosophy that underpins the college core values, vision and mission is founded on the gospel of Jesus Christ and the desire to bring this 'good news' in a practical way to all people, especially the poor. Based on the social teaching of the Catholic Church, the College endeavors to serve all people irrespective of their religion or ethnicity. All college programmes focus on recognizing human potential, natural resources and the environment as the foundation of economic and social activity.

Baraka runs several programmes in tandem with its mission and vision. These are; Diploma in Sustainable Agriculture and Rural Development(DSARD), Certificate in Sustainable Agriculture and Rural Development(CSARD), Short Courses, Beekeeping Development Program, Community Outreach, Day Release Courses for schools, colleges, development workers and organised groups of farmers and business people

Baraka Agricultural College (BAC) located within the Mau Complex has been promoting sustainable agriculture and rural development in the greater Mau complex.

Mau Complex

The Mau Complex forms the largest closed-canopy forest ecosystem of Kenya. It is the single most important water catchment in Rift Valley and Western Kenya. Through the ecological services provided by its forests, the Mau Complex is a natural asset of national importance that supports key economic sectors in Rift Valley and Western Kenya, including energy, tourism, agriculture (cash crops such as tea and rice; subsistence crops; and livestock) and water supply.

Mau Complex provides continuous river flow and favourable micro-climate conditions which are essential for crop production as well as many products including medicinal plants, bee keeping and grazing

Despite its critical importance for sustaining current and future economic development, the Mau Complex has been impacted negatively by extensive illegal, irregular and ill-planned settlements, as well as illegal forest resources extraction.

More than 46,000 hectares have been excised to convert the forest to other alternative land uses like settlement and private agriculture during the last decade. The impact of the ensuing massive deforestation caused by large-scale encroachment, charcoal production, logging of indigenous trees, is already impacting tremendously on water resources, drying boreholes and drying rivers.

An encroachment to this ecosystem has had negative effects to a large population of people and other living organisms within and outside Kenya. The scarcity of water due to deforestation and siltation of rivers, Lake Nakuru, reduced biodiversity, and climate change are some of the problems being faced at the moment.

To curb the above effects, the project has sought to contribute to reinstate the water tower to its original state through sustainable consumption and production of bee products in the areas that have been degraded. The project aims at; building the capacity of the communities in the areas of economic, socially acceptable and environmentally bee keeping practices, conservation of the ecosystem and alternative sources of household livelihoods.

The concept sustainable consumption and production

Sustainable consumption and production (SCP) is about "the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations" (Oslo symposium, 1994).

The concept of sustainable consumption and production is recognized in the Johannesburg Plan of Implementation adopted in 2002 at the World Summit on Sustainable Development (WSSD). It was acknowledged that sustainable consumption and production forms one of the three overarching objectives of, and essential requirements for, sustainable development, together with poverty eradication and the management of natural resources in order to foster economic and social development. It was recognized that fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development. It called for all countries to promote sustainable consumption and production patterns, with the developed countries taking the lead and with all countries benefiting from the process, taking into account the Rio principles, including, inter alia, the principle of common but differentiated responsibilities as set out in Principle 7 of the Rio Declaration on Environment and Development. It also called for governments, relevant international organizations, the private sector and all major groups to play an active role in changing unsustainable consumption and production patterns.

It is against these back ground that BAC has undertaken several projects in bee keeping in the Mau complex as demonstrated below:

Bee keeping projects in Baringo and Nakuru Counties were to address the following challenges

- Capacity building of communities on sustainable management of bees
- Restoration of lost biodiversity through better practices
- Provision of sustainable alternatives to charcoal burning
- Conservation of existing forest resource
- Encouraging farmers and farmer groups to engage in bee keeping to meet ever increasing demand for quality honey and other hive products at regional, national and international market

From the year 2009 the following was achieved through bee keeping program:

- Baraka Agricultural College Beekeeping Development Program in partnership with Farming Systems Kenya started beekeeping trainings with Sakimoi and Sabkor beekeepers group around April 2009 as one of constituent groups in Baringo County.
- In 2010 under a specialized session on bee breeding and multiplication, 45 new colonies were established by Sakimoi and Sabkor groups. BAC provided Catcher boxes to facilitate colony division
- In the year 2011, 200 farmers in Baringo county were trained in bee keeping and supported with bee keeping equipment that included suits, hives and hive tools
- In 2011, BAC in partnership with Promara Program organized beekeeping short courses to 52 community resource person in Marioshoni and Olepolos Sub counties in West of Mau Complex
- BAC has conducted a baseline in bee keeping in East Pokot and Lowdar
- In 2012/13, BAC in partnership with Trocaire facilitated training of 13 community representatives drawn from East Pokot, Baringo and Turkana in bee keeping
- Between September 2012 to March 2013, BAC in partnership with ENSDA, Benedictine Sister and Trocaire trained 32 community representatives from Narok County, Nairobi County, Baringo and Turkana County in bee products, processing and value addition
- To date BAC is involved in capacity building of 12 groups with a membership of 275, in Koibatek and Baringo in areas of introduction to bee keeping, bee management, bee product processing and value addition, leadership, entrepreneurship and Market linkage
- BAC has also been collaborating with African Beekeeping Resource Centre (ABRC) being established in Kenya as an NGO to work on African beekeeping development whose aim is to bring together African beekeeping knowledge and expertise. For More information see: www.apiconsult.com
- BAC has contracted a number of bee keeping groups to supply raw honey to the College for processing. Through the supply, opportunity for extra income and job opportunities have been created
- In September 2013, 33 course participant drawn from all over the country, under the umbrella of OVOP were sponsored by JICA for a course in bee product processing and value addition
- Every year an average of 80 BAC long course participants pursuing Diploma and Certificate Course on Sustainable Agriculture and Rural development (CSARD and DSARD) are equipped with skills and knowledge in bee keeping

- Through the College Day Release Program and field days over 5000 individuals(young and elderly, formal and informal sector) in a year are exposed to bee keeping

Why Beekeeping Project and Sustainable Livelihoods

BAC in line with its mandate of nurturing people's capacities and capabilities in using available resources to develop sustainable livelihoods, believe in bee keeping because of the following reasons:

1. Pollination

Bees pollinate flowering plants and thereby maintain the ecosystems .Bees pollinate cultivated crops.

2. Honey

People everywhere know and like honey, a valuable energetic and healthy food and income source.

3. Beeswax and other products

Beeswax, propolis, pollen and royal jelly. These products have many uses, and can be used to create income.

4. Few resources are needed to start beekeeping enterprise

Beekeeping is feasible even for people with minimal resources.

Bees are obtained from the wild.

Equipment and tools can be made locally.

Bees do not need the beekeeper to feed them.

5. Land ownership not essential

Hives can be placed in any convenient area, and therefore beekeeping does not use up valuable land. Bees collect nectar and pollen wherever they can find it, so wild, cultivated and wasteland areas all have value for beekeeping.

6. Nectar and pollen are otherwise not harvested

Nectar and pollen are not used by other livestock: only bees harvest these resources, so there is no competition with other livestock. Without bees these valuable resources could not be harvested.

7. Different sectors and trades benefit from a strong beekeeping industry

Local traders benefit by making bee hives and equipments, and from using and selling the products and services.

8. Beekeeping encourages ecological awareness (key point in this case)

Beekeepers have a financial reason to conserve the environment: ensuring that flowers are available and bees are protected.

9. Everybody can be a beekeeper

Bees can be kept by people of all ages.

Bees do not need daily care and beekeeping can be done when other work allows.

10. Beekeeping is benign and environmentally friendly

Beekeeping generates income without destroying habitats.

Encouraging beekeeping encourages the maintenance of biodiversity.

11. Integration of beekeeping into the farming system (forest management)

Bees complement crops with their pollination of farmed crops and this in turn can increase crop yields.

Some crops such as sisal, cashew, papaya, coconut, oil palm, citrus, sunflowers and clover benefit from pollination services. Many of the inputs required for beekeeping can be sourced and made locally and do not impinge on other farm activities and required investments. Products that are derived from beekeeping enterprise use little if farm inputs, apart from labour in harvesting and processing periods.

Challenges

- Poor processing and packaging make products to be less attractive
- Bee parasites and diseases
- Many beekeepers are still using traditional methods and therefore produce little and low quality honey
- Honey collection centers and producers are not well organized
- Supply chain and market linkages. Middle men exploit farmers/bee keepers
- Quality standards on local and international markets not met
- Public policy on beekeeping is still at nascent stage
- Gender- bee keeping has remained a male dominated engagement

- Climatic conditions: Recurrent droughts and inadequate forage experienced in beekeeping areas have had adverse affect colonies, swarms and colony build..
- Excessive rains that follow after the droughts affect colony swarming and build up.
- Irregular or absence of hive inspection and monitoring by bee keepers
- Inadequate documentation of research related to bee keeping

Way forward

- New generation of bee hives. More research is required, a BAC past student is involved in design of a new hive that is more secure and easy to inspect
- Cultural orientation and diversification of the sustainable source of livelihood targeted at sustainable consumption patterns
- enhanced market linkages for bee and bee products
- More specialized courses in bee keeping are required. BAC has initiated development of a specialized 6 month certificate in bee keeping
- Development of national curriculum and resources on bee keeping



Top Bar Hive in the field



Processing Press



Beekeeping Training



Beekeeping equipment



Bee House