



PRESS RELEASE

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Three years of the MOYESH project: A model for holistic, inclusive development, and circular economies, through beekeeping and sericulture farming

In October 2019, the International Centre of Insect Physiology and Ecology (icipe), in partnership with the Mastercard Foundation and Ethiopia Jobs Creation Commission (JCC), launched the More Young Entrepreneurs in Silk and Honey (MOYESH) project. The five-year initiative aims to see 100,000 young people (60 percent of them women), in Ethiopia, secure dignified and fulfilling jobs along honey and silk value chains.

Three years into its implementation, the MOYESH project has exceeded its targets on many levels. The initiative has also provided a model for unlocking the full potential of beekeeping, which has a long tradition in Ethiopia but is constrained by several challenges; and also started a renaissance for sericulture farming in the country. Significantly, the MOYESH project has demonstrated beekeeping and sericulture as entry points for holistic and inclusive development, as well as the creation of circular economies.

MOYESH project achievements (as of November 2022)



As of October 2022, the MOYESH project had directly created jobs for 67,191 young people, which is 67 percent of the 100,000 target, and 12 percent above the threshold set for this point of implementation.



Of the youth partners, 37,310 (63 percent) are women.



The youth partners have been aggregated into 6,818 cooperative enterprises (6,057 beekeeping) and (760 sericulture).



Through the MOYESH project, 7,343 hectares of previously degraded land have been rehabilitated.



The beekeeping enterprises are rearing 80,224 bee colonies; they have produced over 590 tonnes of honey between 2021 – 2022 and 59 tonnes of beeswax, generating a total of ETB 127.59 million.



About 1,800 silkworm cocoons have been produced through the MOYESH project, out of which 450 kilogrammes of yarn has been reeled and sold.



Indirectly, the MOYESH project has created opportunities for an estimated 20,000 people, including input suppliers, trainers and agricultural professionals.



About ETB.5 million has been generated through business diversification activities being undertaken by the enterprises alongside beekeeping and sericulture farming.



The youth enterprises have mobilised savings amounting to ETB 36 million.



Two MOYESH project youth partners display silk yarn and honey during an exhibition in Addis Ababa, Ethiopia, in 2022. The initiative uses a socially and gender inclusive approach in its recruitment of youth partners; enables them to produce better quality and quantity of bee products that meet local, national and international standards; and empowers them with a sense of ownership in job creation, entrepreneurship and environmental regeneration.

Synergies to unlock potential

“The MOYESH project has succeeded due to a variety of factors, starting with its indisputable alignment to national and regional developmental agendas in Ethiopia. For example, creation of jobs for the youth is a key priority on all levels of governance. In addition, the Ethiopian government recognises the potential of beekeeping and sericulture farming in rural transformation, and as a foreign exchange earner through the export of high quality products,” explains Dr Workneh Ayelaw, Programme Coordinator, MOYESH project.

The initiative is capitalising on *icipe*'s ingenuity in using science-led modern beekeeping and sericulture farming to sustainably transform the livelihoods of communities, especially those living in fragile or natural resource-rich ecosystems in Africa. Through the Mastercard Foundation, a clearly defined framework for dignified and fulfilling jobs has been established. In addition, a reciprocal relationship has been created with government partners on national and regional levels; and with agriculture, apiculture and sericulture extension officers; women and youth affairs, and cooperative development offices; at district and village levels.

“This approach has enabled us to implement the MOYESH project in a cost-effective and sustainable manner. For example, we have instituted a socially and gender inclusive strategy to recruit partnering youth. We have also designed a unique training model that promotes knowledge and social capital; and we are empowering the youth partners while also entrenching in them a sense of ownership in job creation, entrepreneurship and environmental regeneration,” explains Dr Ayelaw.

A significant aspect of the MOYESH project is the commitment by government agencies to allocate land for beekeeping or sericulture to the youth enterprises. This is either land that is degraded or adjacent to natural resource-rich ecosystems that are in need of conservation. Previously, such land was out of bounds for the community and at best it was only used for grazing livestock. Thus, community members had little motivation to contribute to its preservation or regeneration.

“Through the MOYESH project, a more compelling and sustainable way to safeguard natural resources has been introduced. The youth have land they can use for five years, something to define themselves, a source of dignity, confidence and direction, while also contributing to its regeneration,” he adds.



A newly-established apiary belonging to a MOYESH project beekeeping youth enterprise in Shishonde district, in the Southern Nations, Nationalities, and Peoples' Region (SNNPR). The apiary is located on the fringes of the Kafa Biosphere Reserve, which contains more than 50 percent of the remaining montane forests in Ethiopia. With growing population and shrinking land sizes, community members are increasingly turning sections of the forest into new agricultural land. The MOYESH project is contributing to the goal of protecting this important natural resource, while offering alternative livelihood options. The bees thrive due to the forests huge flowering tree diversity, while the youth partners help to regenerate the land, formerly a swamp, into a thriving agricultural area.

Boosting beekeeping

Although beekeeping in Ethiopia has a long tradition, it has predominantly been considered a side activity. The sector is also highly fragmented, as beekeeping is primarily undertaken by individual farmers with limited capacity to amalgamate bulk products for processing or marketing.

The land allocation and cooperative enterprise model of the MOYESH project has helped to mainstream beekeeping as a worthwhile and lucrative income generation occupation. Due to the ample space, the apiaries do not compete with other agricultural activities, and beekeeping is undertaken incrementally. Based on the economy of scale, the youth enterprises can adopt modern beekeeping technologies, which would otherwise not be profitable in smaller initiatives.



The MOYESH project boosts traditional beekeeping methods, while introducing modern and improved technologies and processes. We use a matching resources approach: we provide the youth partners with bee colonies in traditional beehives, which are more affordable and ideal for rearing bee colonies. We also provide modern frame hives, which house more bees and yield more honey, enable better bee management, including colony and disease inspection, and honey and beeswax harvesting. The enterprises provide a matching number of bee colonies as well as the so-termed transitional hives, which are simple modifications of modern frames, which can be made using locally available materials. icipe and partners provide a starter kit that includes items like hive tools, full grade honey collecting jars, and protective clothes.

Unique training model

The training provided by *icipe* and partners enables the MOYESH youth partners to establish robust and healthy bee colonies. Thus, it covers topics such as bee breeding, including bee biology and queen bee rearing; transfer of colonies from the traditional hives into either modern or transitional hives; colony

multiplication; inspection and control of honey bee disease pests and predators. The youth partners also provide postharvest training to support proper harvesting, quality control in processing and packaging of honey and beeswax.

The MOYESH project also provides an entrepreneurial skills development course, which imbues in the youth partners the hard and soft skills required for owning and running a business successfully. The soft skills include a personal development component aimed at bringing a positive mind set for personal responsibility for success and failure, and the ability to set personal and business goals. The hard skills include business startup skills, business plan, preparation marketing and financial management E-commerce and team building, to enable the youth to work in enterprises.



The MOYESH project is mainstreaming the role of bees as pollinators, and thus, the critical role of beekeeping in enhancing agriculture and food security. For example, due to the availability of ample land, the enterprises cultivate multipurpose pollination dependent crops, which ensure adequate and availability of bee forages, and help to diversify the crop portfolio. These crops include high value crops, vegetables, fruits, oil spices, better incomes (as shown in the photo above, which shows an apiary surrounded by crop in Ayehu Gugusa district, Amhara Region, Ethiopia). The pollination services are also extending beyond the apiaries. Indeed, we have noticed that community members are shifting their cropping patterns in accordance to the bee seasons from our apiaries. In addition, the enterprises are contributing to a mind shift and strong environmental values in the communities, including reduction of indiscriminate application of chemicals to control weeds or pests.

Socially inclusive youth engagement

The MOYESH project seeks to engage not just unemployed youth, but those who are either underpaid or working as unpaid labour. Our close relationship with local agencies, as well as the evidence of success, enables us to identify broader categories of deserving, interested young people, for example returning migrants and urban migrants, who often find themselves in difficult situations.

Moreover, the MOYESH project is enabling more women to enter and thrive in the beekeeping. Historically, beekeeping has not been considered a female occupation, leading to exclusion of women who could contribute and benefit from the sector. Other barriers include cultural perceptions that create difficulties for women to join the labour market.

“We are making adjustments in beekeeping technologies, for example through more female-friendly apiary designs; and model female beekeepers to serve as an inspiration for others. Also women partners can choose the most convenient sites for their apiaries, for instance in their backyards, and to work in all-female teams, should they so opt. Further, we have introduced child care facilities for nursing mothers to use during training and group work sessions. This enables the female partners to dedicate quality time

to the training, and to have peace of mind that their children are being cared for close by,” Dr Freweini Assefa, Deputy Coordinator, MOYESH project.

Strategy for sericulture

Ethiopia has high potential for silk production, due to suitable conditions such as bimodal rainfall pattern, ambient temperature, different vegetation and various agro-ecological factors. However, the sericulture sector is still in its infancy, having been re-introduced into the country about 20 years ago. Currently, just about three tonnes of silk is produced annually in Ethiopia.

“For close to three decades, *icipe* has conducted extensive research and development sericulture farming activities, thus amassing immense basic science knowledge and experience in establishing the sector in diverse agroecological regions across Africa. In Ethiopia, we have introduced the rearing of Eri silkworm due to its suitability to the country’s weather conditions, its hardiness, disease tolerance and year-round production cycles, among other factors,” says Dr Shifa Ballo, Scientist, MOYESH project.



The Eri silkworm (Samia Cynthia), is a saturniid moth that feeds on the leaves of castor plants. In Ethiopia, this fast-growing, suckering perennial shrub that bears handsome giant 12-lobed fanlike leaves, which can reach the size of a small tree (around 12 metres tall) thrives in abundance, although it has always been considered a weed.



The MOYESH project is intentional in supporting business diversification in both beekeeping and sericulture, which contributes to income generation, allows more effective and efficient use of the labour accumulated in the enterprises, land and other resources, and ensures cash flow throughout year. As shown in these photos taken in East Showa, Oromia Region, Ethiopia, an incremental model is used in sericulture farming, including domestication of castor plants (right photo) to meet the silkworm rearing needs. Other crops, for example legumes (left photo), a lucrative export crop as well a good nitrogen fixing crop, are planted in the rest of the land.

icipi and partners are conducting intensive training and capacity building to enable the enterprises to domesticate castor plants, establish high quality silkworm egg grainages, rear them and produce silk cocoons, and to grade and process the cocoons into yarn. The enterprises also receive initial inputs such as wooden and bamboo feeding trays, rearing sheds and mountages where the silk larvae spin their cocoon.

“Eri silk is unique; it is a staple fibre, which, unlike other silks has a continuous filament. It is very strong, durable and elastic and hardy for processing. It is also darker and heavier than other silks and blends well with wools and cotton. The fabric produced from Eri silk is coarse, fine and dense. We are taking advantage of Ethiopia comparative advantage in traditional craftsmanship in weaving and design, use of natural dyes on cotton, to create distinct, globally appealing fabrics,” Dr Ballo adds.

Sericulture farming involves diverse activities from the cultivation of host plants to silk processing, creating numerous opportunities across the value chain. Our results so far show the potential of vibrant, inclusive value chains across all silk farming stages, benefiting entrepreneurs, private sector actors, designers and models.

Moreover, there is potential for value-added products from sericulture farming in food and nutritional security, healthier food systems and in renewable energy. For example, silkworms are a source of protein for people; their pupae are rich in oil that is used in the cosmetic industry; and the pupal cake is a good source of protein for poultry and fish. Silkworm excrement makes good organic fertiliser and the cocoons can be used in the biological control of insect pests. Silkworm rearing litter is used as fuel bio-gas production and as a fuel. With appropriate processing and handling, the castor seeds, with their high oil content, have numerous uses. The castor oil and its derivatives are used as oil and soap, and as carriers, emollients or solubilisers for toiletries, cosmetics and fungistatics. The oil is also used in the pharmaceutical industry, for example as laxatives. Bends of castor husks and meal can be used as organic fertilizer and the seeds hold promise as a biodiesel fuel.

Partnerships with private sector

The MOYESH project has created a range of opportunities for input suppliers, for example in the manufacture of frame hives and protective beekeeping clothing. Private sector partners are supporting the enterprises to start beekeeping and in business diversification. One avenue is through an outgrower model where commercial beekeepers provide the enterprises with in-kind and in-cash resources. The youth repay in kind, for example by supplying crude honey and beeswax. The MOYESH project is also addressing limitations in the beekeeping value chain, by promoting collaboration among actors such as input suppliers, enterprises, aggregators and exporters.

“We have embraced the private sector as a key partner in sericulture transformation in Ethiopia. They provide the inputs and outputs, readily available market outlets, and help to ensure that the quality is maintained throughout the process with the end product in mind. They also enable the merging of indigenous knowledge and technology to produce high quality products in large volumes,” explains Esayas Mulatu, Senior Deputy Coordinator, MOYESH project.

To improve financial inclusion of the youth enterprises, and to increase investments by private sector in beekeeping, the MOYESH project is building business-to-business linkages and alliances among banks and micro finance institutions.

“Previously, the financial sector considered small and medium enterprises a risky business. However, the banks are inspired by the volume of transactions, confidence. We have reached agreements with several of them to advance loanable funds to microfinance institutions level for the enterprises.”

Continental model

The MOYESH business model is gaining the acclaim of the Ethiopian government agencies. For example, the national government is designating selected corridors for apiculture clusters. Moreover, the initiative is positioned to contribute to the Ethiopia Climate Resilience Green Economy vision, which aims to pivot the country to become a middle income country by 2025, through rapid economic growth that is resilient to climate change. The Oromia Regional Government has adopted the MOYESH project model in its honey development initiative.

“Through, the MOYESH project we have developed a model for holistic and inclusive development across Africa. We have started to share best practices and lessons learnt, and to explore opportunities to scale-out the model in our other countries of operation across the continent,” explains Dr Ayelaw.

Significantly, the MOYESH project is clearly aligned to the the 2030 Agenda for Sustainable Development, adopted by the United Nations in 2015, and its 17 Sustainable Development Goals (SDGs), and to the aspirations of Agenda 2063 of the African Union.

Notes for Editors

About **Mastercard Foundation**

Mastercard Foundation seeks a world where everyone has the opportunity to learn and prosper. Through its Young Africa Works strategy and Canadian EleV program, the Foundation works with partners to ensure that millions of young people, especially young women, access quality education, financial services, and dignified work. Mastercard Foundation was established in 2006 through the generosity of Mastercard when it became a public company. The Foundation is independent with its own Board of Directors and CEO. For more information and to sign up for the Foundation’s newsletter, please visit <http://www.mastercardfdn.org/> Follow the Foundation on Twitter at @MastercardFdn

The **International Centre of Insect Physiology and Ecology (www.icipe.org)**, headquartered in Nairobi, Kenya, is the only research institution in Africa working primarily on insects and other arthropods. The Centre conducts world-class science, and then translates this knowledge into innovate environmentally friendly, affordable, accessible and easy to use solutions to tackle crop pests and disease vectors. *icipe*’s role also extends to the conservation and sustainable exploitation of the beneficial insect biodiversity. Thus, *icipe* works through the 4Hs Themes – Human Health, Animal Health, Plant Health and Environmental Health – a holistic and integrated framework that has sustainable development as its basis, to improve food security, health and the overall well-being of communities in Africa. We gratefully acknowledge the support of *icipe* core donors: Swedish International Development Cooperation Agency (Sida); Swiss Agency for Development and Cooperation (SDC); Australian Centre for International Agricultural Research (ACIAR); Federal Democratic Republic of Ethiopia and Government of the Republic of Kenya. The views expressed herein do not necessarily reflect the official opinion of the donors.