

## **Collective beekeeping to combat pollinator decline, livelihood improvement and forest conservation**

Pollinators play an important functional role in terrestrial ecosystems and perform key ecosystem services, vital to the maintenance of wild plant communities and agricultural productivity. In the tropical countries annual pollinating services by the bees could be around \$ 122 billion (Constanza, et al 1997). Global climate change, deforestation and forest degradation, extensive use of chemicals in agriculture and shortage of food are causing pollinator decline. Loss of the pollinator would result in extinction of the plant (Washitani 1996, Borges 2000) and thus biodiversity loss is evident. If such plants are keystone species, then their extinction could result in cascading effects through communities of frugivores and other taxa dependent on the plants (Terborgh 1986). With this background, Snehakunja trust, in association with Parna Western Ghats FPO intends to promote the initiative on collective bee keeping in the Central Western Ghats region. Parna is a newly established producer company with the goal of promoting sustainable production methods, forest conservation and livelihood improvement of marginalised communities. It has already 615 share members. Main objectives of collective keeping are as below;

- Conserve the honey bees, an important pollinator on a large scale
- Livelihood improvement of forest dependent and indigenous communities through improved processing, value addition, eco-labelling and direct market linkages
- Empowering women of scheduled caste and scheduled tribes, training them on bee keeping and through collective marketing
- Involve in ecological restoration of forests, mainly fresh water swamps and adjacent tropical rain forests

Activities involved;

- Encourage individual share members of Parna Western Ghats farmer producer company for bee keeping and also investors from outside who are concerned in forest conservation
- Training members on bee keeping (regular hive maintenance, about pests and diseases, dividing the colony) improved harvesting of honey
- Monitor the boxes with professionally trained people
- Improved harvesting, eco-friendly packaging, labelling and collective marketing

- Portion of the profit would be used for actual forest conservation – nursery rising, planting, promote sustainable management of forest resources especially Non Timber Forest Products
- Training wild honey hunters on sustainable harvesting practices and hygiene during processing – this include avoid squeezing and build capacity for cutting & draining method at the collection site, carrying material, storing container, filter cloth to ensure better quality
- Prepare a calendar for bee flora for which bees visit for the nectar and pollen, cultivate them in association with village forest committees

The project is expected to result in the following:

- Improved honey based livelihood opportunities for the rural indigenous communities, especially the women
- Community led sustainable management of honey bees, bee keeping technologies and their application in the field
- Increased levels of understanding of different issues related to honey bees from the social, biological, economical and policy view points
- Increased levels of awareness, capacities and skills related to wild honey bee and on bee keeping among women and the community members
- Improved form of technology and market support for women groups with respect to honey

Albert Einstein has stated the seriousness of the issue when he said, “If the bee disappear from the surface of the globe, then man will only have four years of life left.”

	Y0	Y1	Y2	REMARKS
Cumulative no of bee boxes	100	250	500	
Avg yield per year	5	6	7	kg per box
Total production	500	1500	3500	In kg
Sales revenue (₹)	187500	600000	1487500	
Price per bee box with hives – 4000 for each box with hive, 2000 for empty boxes	400000	100000	100000	Eight framed Newton box with bees in four to five frames. Second year colony would be divided,

				only operational costs and purchase of new boxes are added
Bee stands – 1000 per stand	10000	50000	50000	To avoid ants and other pests
Honey extracting units	32000	10000	10000	
Regular monitoring	250000	300000	300000	

At the end of the third year, the business should make a profit of 6 hundred thousand and after that every year 8 hundred thousand profits. The initiative aims to invest 50% profit in raising the nursery of bee flora and plant them in association with VFCs. Further, we aim to actively participate in the restoration, management and preservation of f prestine forests in the central Western Ghats.