



UNDER THE MANGO TREE

Diversifying Income Sources for Small Farmers through Beekeeping with Indigenous Bees in India

by

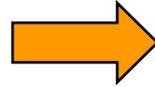
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Under The Mango Tree Society



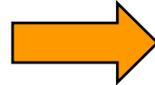
Context

**Small
Farmers**



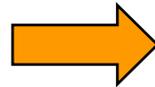
Largest proportion of India's farmers (86%) are small and marginal farmers

**Decline in
productivity**



Decline in agricultural growth and productivity; lack of employment opportunities in rural areas

Market access



Access to **fairly-traded**, sustainable markets **difficult**
Markets searching for **quality** and consistent **supply**

**Bees for
agriculture**

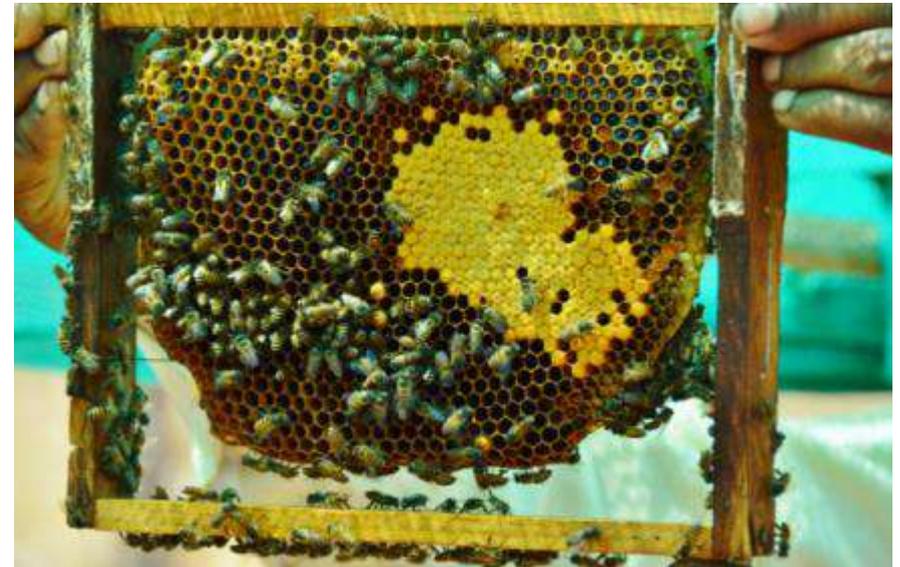


Lack of focus to **beekeeping** and its **vital link** to agricultural productivity, employment and income generation



UTMT Society: USP

We promote beekeeping with indigenous bees to increase agricultural productivity, enhance incomes and improve livelihoods of marginal farmers in India



Who we work with...



- ❑ UTMT works with India's most marginalised tribal farmers in some of the least developed districts of the country
- ❑ 93% of farmers depend on **rains**, are **resource poor** with **subsistence agriculture** and **little marketable surplus**
- ❑ Five out of ten farmers fall in the lowest income bracket. Annual average income of a family of five is around Rs. 25,000 to Rs. 30,000 (USD 348 to USD 418)
- ❑ Supplementary income is earned through wage labour or **migration** to cities as manual labourers



Where we are...

3 states, 14 districts, 175 villages in 10 years



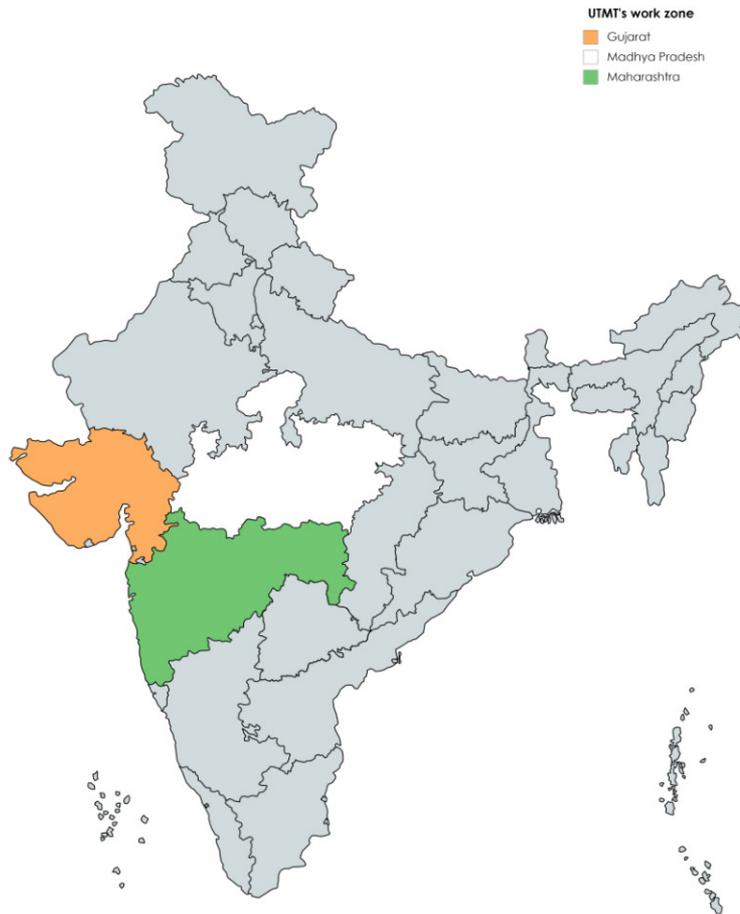
10 tonnes honey



42,000 lives



World Bank
Award 2013 and
Asian Apiculture
Association 2016



Agriculture Impact

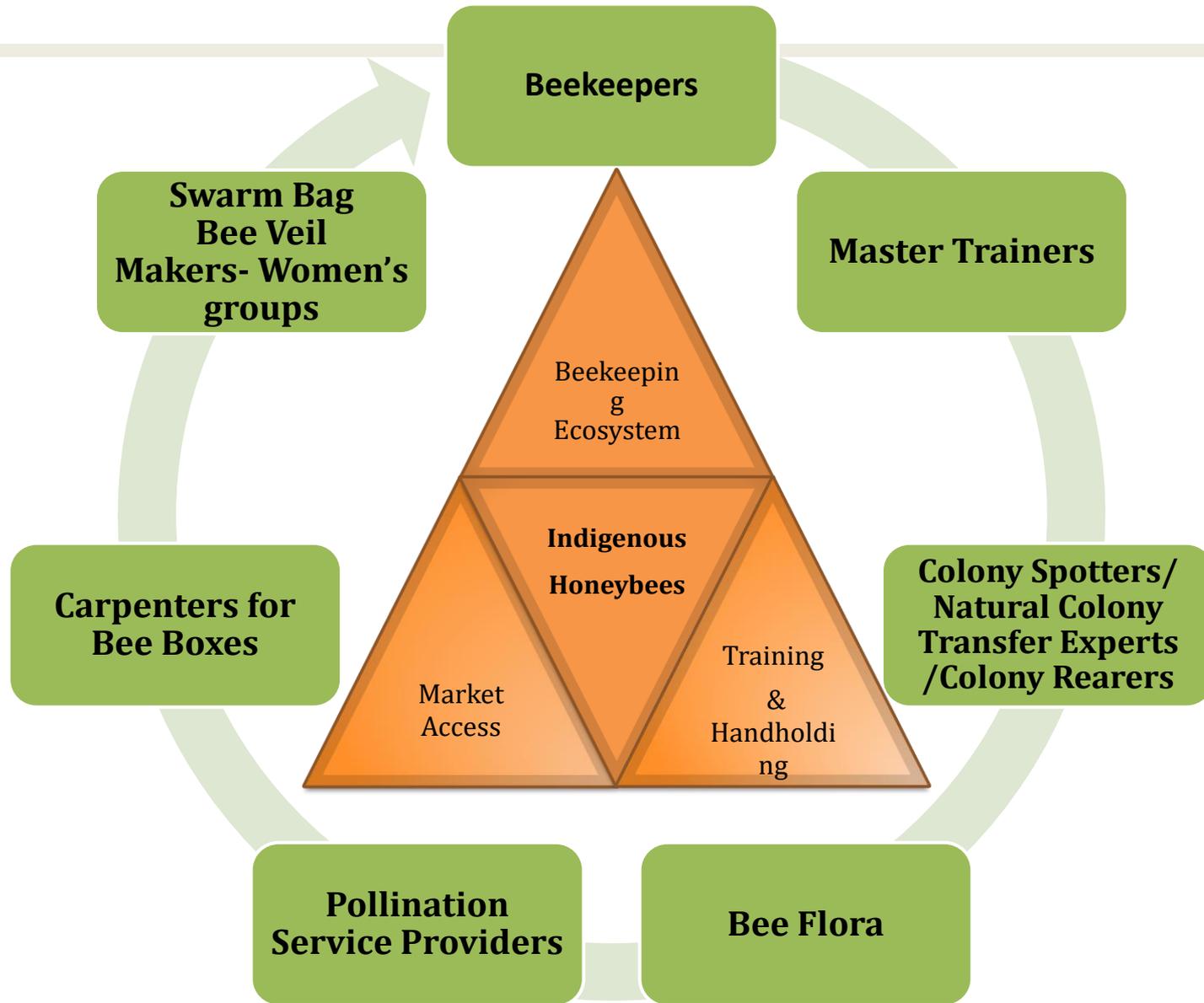


500 Women Beekeepers



HQ in Mumbai
Field offices in 3
States – Gujarat,
Maharashtra,
Madhya Pradesh

Bees for Poverty Reduction Model...



Income for Beekeepers

A. Agriculture

- Increase in Agriculture yields
- Promoting bee friendly flora
- Bee flora nurseries
- Bio Fertilizer & Bio Pesticides

B. Hive & Hive Products

- Honey
- Colony

C. Technical Services

- Master Trainers
- Pollination services
- Honey supply Chain



Agriculture: 1. Increase in Agriculture Yields

	Pre-beebox			Post-beebox (2018)			
	Pre-beebox production (in Kgs.)	Quantity Sold (in Kgs.)	% of sample selling the crop	Post- beebox production (in Kgs.)	Quantity Sold (in Kgs)	% of sample selling the crop	Difference in Total Income
Cashew	1007	1007	100%	2912	2912	100%	Rs. 335315 (USD 4723)
Mango	10323	8610	93%	33610	30840	93%	Rs. 457000 (USD 6437)
Niger	1181	169	20%	1771	1339	79%	Rs. 40061 (USD 564)
Pigeon pea	1432	220	10%	2540	460	17%	Rs. 7400 (USD 104)



Agriculture: 2. Promoting Bee-friendly Flora

- Promote bee friendly plants through seasonal distribution of seeds and saplings of fruits, vegetables, oil seeds, pulses, medicinal and wild plants
- Improves green cover, increases bee forage (to increase honey and colony multiplication), generates extra income for beekeepers through sale of bee friendly crop yields and improves nutrition
- Facilitate market linkages for the sale of produce
- Farmers earned six-times the investment made in seeds and saplings



Honeybee-friendly Crops



Moringa sapling distribution



Cashew sapling distribution



Harvesting of Cluster Beans



Honeybee-friendly Crops



Cerana working on Passion Fruit flower



Passion Fruit farm



Ridge Gourd farm



Honeybee-friendly Crops – Kitchen Garden



Plot preparation for Kitchen Garden



Kitchen Garden



Selling Kitchen Garden produce at local market



Chilli produce



Agriculture: 3. Bee Flora Nurseries

- Women beekeepers have set up fruit and vegetable plant nurseries
- Saplings bought by beekeepers and UTMT Society
- Groups of women beekeepers earn Rs. 20000 (USD 282) to Rs. 40000 (USD 564) per annum



Setting up bee flora nursery



Bee flora nursery



Agriculture: 4. Bio Fertilizer & Bio Pesticides



Training on making bio-fertilizer & bio-pesticides



- Beekeepers trained in making bio fertilizer, bio pesticides with locally available raw material – Green Chillies, Garlic, Neem leaves, cow dung etc
- Sale of this to other beekeepers earns them Rs.10000 (USD 141) to Rs.15000 (USD 211)
- Prevents harmful chemical pesticide entering the area and enhances market value of the produce.



Hive & Hive Products: 1. Honey

- On an average, tribal belt of central India produces 6 to 8 kg of *A. cerana* honey per box per year
- This honey is sold between Rs. 300 to Rs. 800 (USD 4 to USD 11) per kg

CASE STUDY

Madhubhai Bhoya (48) Village Tutarkeh, Valsad - Gujarat

- Produced 135 Kgs of Sesame from sowing 2 Kgs seeds – without use of any fertilizer and pesticide
- 25 beehives placed near the Sesame field
- Harvested 98 Kgs earning additional income of INR 27,440 (USD 385)



Beekeeper Madhubhai extracting honey



Hive & Hive Products: 2. Colonies

- Growing demand for *A. cerana* colonies from small and big farmers, urban beekeepers and various government beekeeping programmes
- Beekeepers have set up apiaries for *A. cerana* colony multiplication and sale
- Opportunity for micro enterprise
- Beekeepers sell 5 to 10 *A. cerana* colonies per year and earn Rs. 7500 (USD 106) to 15000 (USD 211) per year



Technical Services: 1. Master Trainers



Master Trainers inspecting Beeboxes



Practical training by Master Trainers

- Cadre of master trainers or progressive beekeepers – trained in advanced beekeeping skills
- Provide handholding support at village level to beekeepers ensuring sustainability to the programme
- Also provide technical services to urban beekeepers, government trainings for a fee
- Earn an annual additional income of Rs. 48000 (USD 676) to Rs. 70,000 (USD 986)
- Currently 75 Master Trainers engaged in the 3 states



Technical Services: 2. Pollination Services

- Small farmers are becoming micro entrepreneurs by providing pollination services to other small and big commercial farmers growing Chilies, Brinjal, Mangos, Sesame, Pomegranate
- They earn Rs. 10,000 (USD 141) to Rs. 25,000 (USD 352) from renting of beehives and also from honey



Technical Services: 3. Honey Supply Chain

- One to three beekeepers per village engaged in honey aggregation process
- Paid on incentive basis – Rs. 20 per kg
- 50 beekeepers engaged in supply chain and earn Rs. 2500 (USD 35) to Rs. 4000 (USD 56) per person



Honey aggregation at Beekeeping Resource Center



Checking moisture in honey using refractometer



Summing Up

- ❑ Beekeeping with indigenous bees is suitable for small holders
- ❑ New and diversified livelihoods can be generated around beekeeping value chain
- ❑ Income increases by 25 % to 30 %
- ❑ Beekeeping and allied activities strengthens ecological services for disadvantaged communities
- ❑ Shows potential as a climate change adaptation strategy



UTMT is committed to and believes:

*“a SMALL bee-box with market access will make
a BIG world of difference”*

Thank you!



Bees Abroad

Relieving Poverty through Beekeeping

