

HONEY BEE FARMING:

A BOON FOR FARMER'S SECONDARY INCOME

Somdutt Tripathi, Anjali Pandey,
Gaurav Mishra, B.K.Gupta, B.P.Mishra
College of Agriculture Extension, Banda University of Agriculture and Technology,
Banda

INTRODUCTION

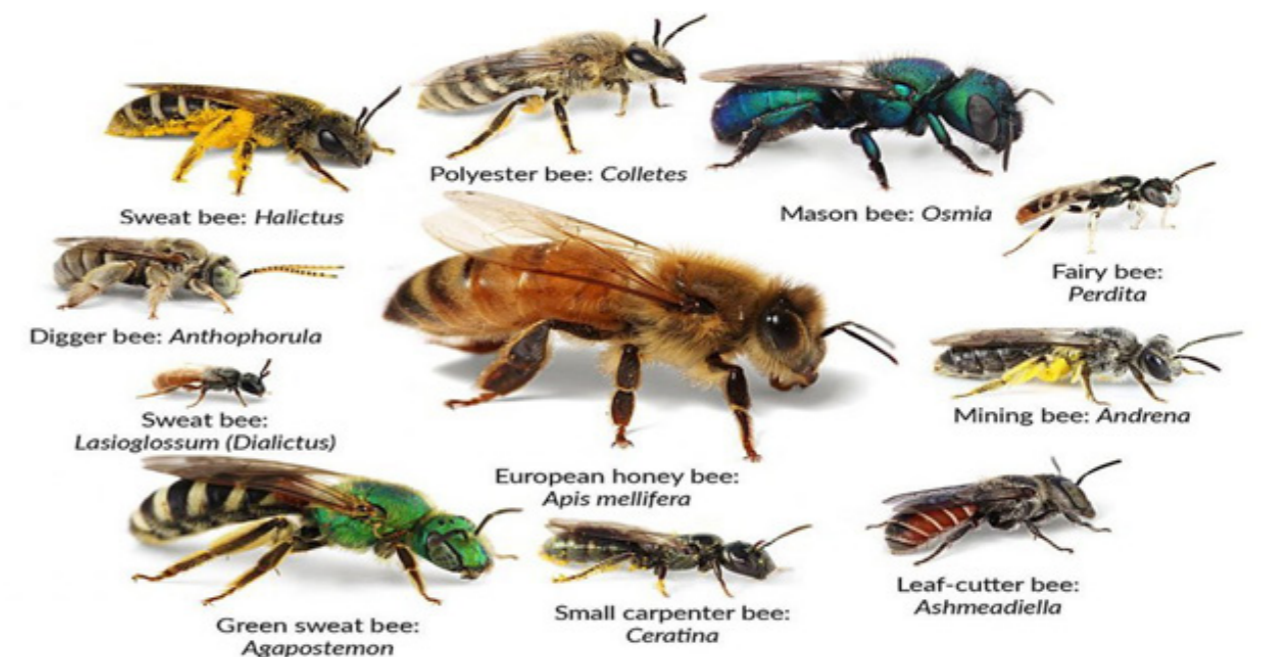
It may not have been long since honey bee farming became financially viable in India, but people have long been gathering honey from forests. Honey bees turn blossom nectar into honey and keep it in their hives. The market's increasing need for honey suggests that beekeeping in India can currently become a successful business. Let's discuss the goods made in India as a result of beekeeping. It is used to make two important products, namely honey and honey wax. This agro-based business is open to any farmer looking to supplement their income. The production of honey is a traditional activity. Farmers have turned to the beekeeping industry after suffering ongoing losses in them. It may not have been long since honey bee farming became financially viable in India, but people have long been gathering honey from forests. Honey is produced by honey bees from the juice of flowers. Farmers are making money by beginning this enterprise, and pollination boosts crop output. In our nation, India, the majority of conventional or traditional

agriculture has been practised. Farmers have turned to the beekeeping industry after suffering ongoing losses in them. Additionally, beekeeping can be used as a crucial input to increase agricultural production.

TYPES OF HONEY BEE

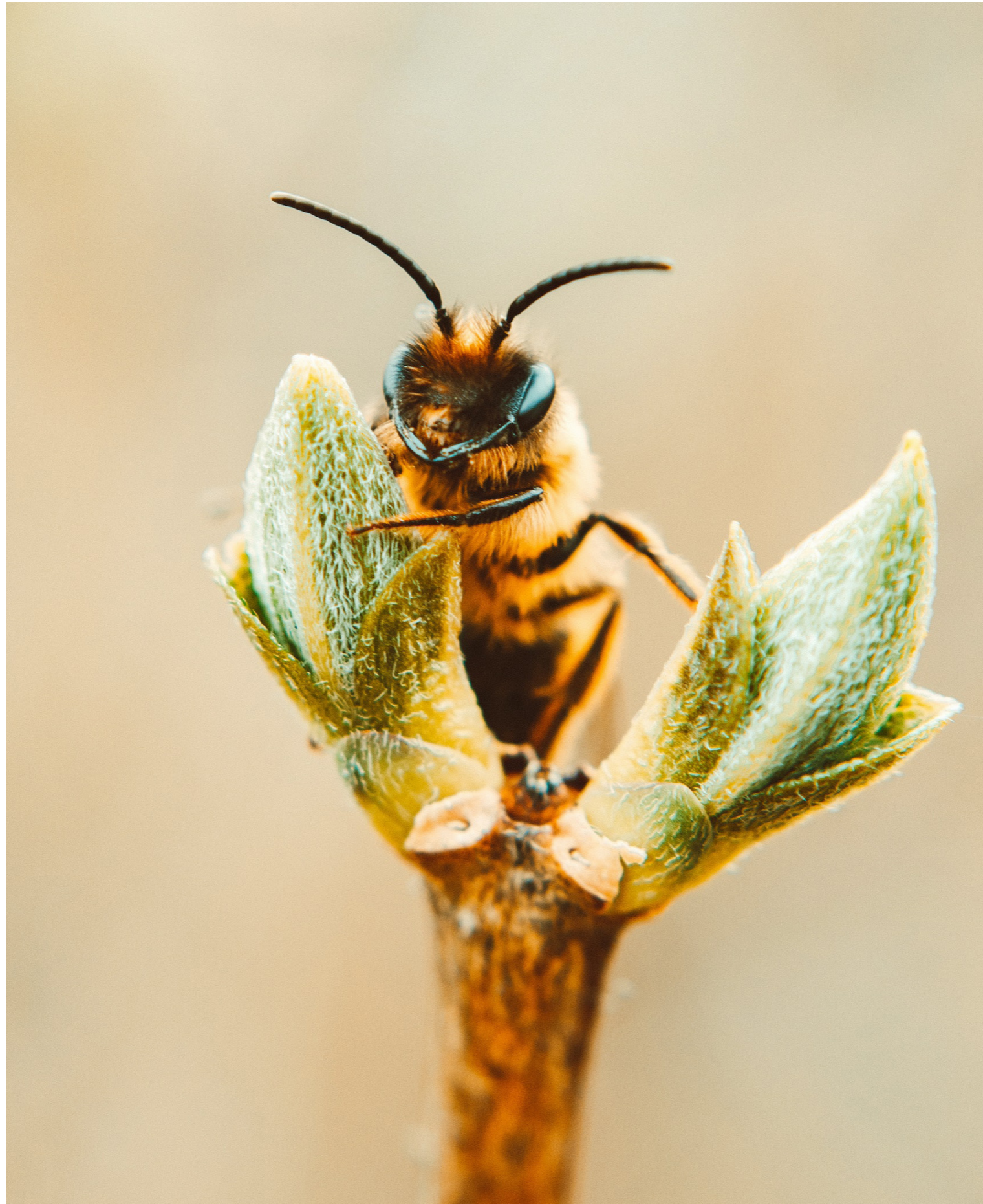
A beehive typically has a queen, hundreds of drones, and thousands of worker bees; hence, a colony may have three species or more. In this, the queen bee is a female bee with the ability to reproduce. Additionally, worker bees are sterile bees unable to reproduce, whereas drone bees are male. Some prominent bee species include the ones listed below.

- ✓ Indian Hive Bees (*Apis cerana Indica*)
- ✓ Rock Bees (*Apis dorsata*)
- ✓ Little Bees (*Apis florea*)
- ✓ European and Italian Bees (*Apis mellifera*)
- ✓ Dammer Bee or Stingless Bee (*Tetragonula iridipennis*)



ADVICE FOR THE BEEKEEPING INDUSTRY

Before starting this business, a farmer starting honey bee cultivation needs to keep a few things in mind. To put it another way, the farmer or entrepreneur might need to do the following before launching this firm. Get involved with bees in the area where you want to start this business and gain practical knowledge of them. Get solid training in honey bee farming. Let's say the farmer or businessperson has never worked with bees before. If so, they ought to collaborate with local businesspeople or farmers to learn everything there is to know about the honey bee farming process. The business owner should then develop a successful plan for utilising the tools and marketing the goods. Set only reasonable goals when creating a bee farming business plan, and begin small in the early stages. After gaining some experience in the Indian honey industry, you can then consider bigger projects. The local circumstances will, however, determine what tools can be utilised and which species of bees should be raised in this project. Entrepreneurs or farmers working on honey bee projects should choose a local sales representative in advance. In addition, local bakeries, candy producers, ayurvedic pharmaceutical firms, and many more can be honey's biggest consumers.



BUSINESS OF FARMING HONEY BEES

Despite the fact that beekeeping is an agricultural business, the general public holds the misconception that anyone may start an agriculture-related business, regardless of prior experience or education. But that is untrue. The entrepreneur needs to have the relevant expertise before starting a beekeeping business. Let's learn how someone can launch their own beekeeping business.

INDIAN BEEKEEPING TRAINING

The farmer who begins bee cultivation needs technical expertise, as we have already mentioned. Therefore, for a few months, the farmer or businessperson should collaborate with the farmers who are already beekeepers in that region. For this business, you can also obtain a certificate from a reputable training facility.

The businessperson or farmer can get the necessary training in this industry from his local agriculture department or any agricultural university. However, an entrepreneur won't learn all of this information until he has received training from a regional agriculture department or agricultural university and has a practical understanding of it.

BEST LOCATION FOR A BEE FARMING OPERATION

You should choose an appropriate location for your honey business plan that is dry. High moisture levels have an impact on honey ripening and bee flight. A source of water, whether natural or manufactured, must be present at the location. In colder climates, trees serve as wind barriers. The beehive can be placed beneath a canopy of trees, or manmade structures can be built to create a covering. It means that the beehives can be kept in the shade under the trees if the business owner chooses a location with a lot of trees for his beekeeping project. Floras or pastures are the names for the plants that bees use to produce pollen and honey.



PROJECT TOOLKIT FOR HONEY BEES

For beekeeping in India, various equipment may be needed according to the geographic conditions. Therefore, the local beekeepers can provide the entrepreneur with information on the tools that will be most useful, though the following list of equipment is also provided.

- ✓ Hive stand
- ✓ Bottom board
- ✓ Hive bodies
- ✓ Painting
- ✓ Smoker
- ✓ Hive tool
- ✓ Protective wear
- ✓ Frames and combs
- ✓ Queen excluder
- ✓ Inner cover
- ✓ Outer cover
- ✓ Plastic hive equipment

CONTROL BEE POLLINATION

As we all know, bees collect pollen and plant juice to make honey. Therefore, in order to benefit from the plants, the farmer or businessperson must maintain beehives close to such a field. Juice and pollen are readily available. As a result, it is recommended to start a bee colony in locations with at least 10% of flowering plants. A farmer or businessperson starting a beekeeping operation in India should keep in mind that if the bees are of the Italian species, three colonies can be maintained per acre. If the species of bee is Indian, however, five colonies can be planted per acre.

PREVENT PESTS AND DISEASES FROM AFFECTING BEES

The stock and the organisms creating the product should be safeguarded if the farmer or business owner anticipates making significant returns from his honey bee farming enterprise. As a result, the business owner should work to keep them free of pests and illnesses. In general, common pests include wax moths, ants, wasps, wax beetles, birds, parasite mites, Varroa destroyers, bee mites, brood mites, etc. The diseases that are prevalent in this farming include Thai sacbrood virus (TSBV), European foul-brood disease, American foul-brood, Nosema disease, Sacbrood disease (SBV), Chalkbrood disease, and Stone brood disease, among others. As a result, the farmer must take proactive measures to control particular pests and illnesses.

INDIAN BEE HARVESTING

Among the prominent items offered by the honey beekeeping operation are honey, bee venom, bee wax, royal jelly, propolis, and pollen. In order to harvest goods from old and top bar hives, the farmer must choose a hive that has honey that is extremely close to the exterior of the nest and is coated with a thin layer of bee wax. Using Honey Extractor Equipment, honey is extracted from the Super Hive portion.

Annual income through hives

Number of Hives	Income/Hive/Annum (INR)	Average Annual Income/Annum (INR)
0-50	1,153	54,620
51-100	1,539	1,33,385
101-150	1,567	2,30,233
151-200	1,600	3,20,000
201-250	1,630	4,07,100
251-300	1,680	5,04,000
401-450	1,728	7,68,800

INITIATIVE TO PROMOTE ECONOMY THROUGH BEE KEEPING

The Indian apiculture market is expected to reach Rs 33,128 million by 2024, growing at a CAGR of 12%. India ranks sixth among the countries that export natural honey, sending products to Germany, the United States, the United Kingdom, Japan, France, Italy, and Spain. Natural honey exports totaled 59,536.75 MT in 2019–20, valued at Rs 633.82 crore. The UN Sustainable Development Goals 1 (No Poverty), 2 (Zero Hunger), and 3 (Good Health and Well-Being) are all in line with the booming apiary business. The National Beekeeping Honey Mission (NBHM) was established by the Centre in April 2018 in recognition of the enormous potential of beekeeping and related skilling activities for MSME growth. In order to guarantee bee keepers a stable income as well as ongoing production of honey and other bee hive products, it suggests clusters in every neighbourhood with the potential for establishing apiaries. The 2019 cluster model is a part of the MSMEs' current SFURTI (Scheme of Fund for Regeneration of Traditional Industries) programme. Depending on

the profitability of the cluster, a proposed cluster may get a maximum payment of Rs 5 crore for more than 500 beekeepers and a proportionate amount for less beekeeper, but not for less than 350 beekeepers.

Beekeeping has historically been a hobby for people and NGOs, but there are several difficulties in processing, marketing, and selling honey. In addition, losses are experienced as a result of poor pollination and adverse weather. Individuals working in groups and FPOs will be assisted by shared facilities and infrastructure under the proposed clusters programme. The mission saw an increase in beneficiaries from 1,384 in 2017–18 to 2,637 in 2019–20, and by 2020, more than 1.10 lakh bee boxes had been delivered nationwide. It's crucial to support MSMEs and provide local growth opportunities in order to restore the economy after the recent turmoil. Prime Minister Narendra Modi's appeal for the Sweet Revolution or Sweet Kranti (for beekeepers) is an effort to make the nation *aatmanirbhar*, comparable to Skill

India and Make in India as well as the White Revolution, Green Revolution, and Blue Revolution that sparked sector-wise prosperity. He encouraged young people to pursue scientific beekeeping as a career because it has many advantages in his most recent Mann ki Baat. It is the best method for pollination and can boost farmers' income by anywhere between 10% and 80%. Additionally, beekeeping improves nutritional security and biodiversity preservation. Therefore, maintaining this sector's viability is essential for the economy of the nation.



CONCLUSION

India now has 3.4 million bee colonies, but has a potential of 200 million, therefore adding more bee colonies will increase agricultural and horticulture productivity overall. The top states with active beekeeping cooperatives at the moment are Kerala, Tamil Nadu, West Bengal, Bihar, Odisha, Himachal Pradesh, Punjab, Kashmir, Meghalaya, and the Andaman and Nicobar Islands. The growth of cooperatives will aid in creating a team effort to improve capabilities. Indiscriminate use of pesticides, quality control, branding, marketing, and distribution are some of the issues faced by individual bee farmers. The apiary business will see an increase in production thanks to digital, which has been the preferred partner in practically all industries since Covid. To fully explore the potential of an apiary, mobile sensors, smartphone apps, IoT, and AI may be used. Beekeepers are assisted in delivering operational assistance, maintenance, and marketing operations by algorithm-based predictive data analysis. Such indigenization will significantly contribute to the government's declared goal of having a \$5 trillion economy by 2024–2025.