

Sweet Revolution

The National Beekeeping and Honey Mission (NBHM) and Its Role in Sustainable Agriculture and Rural

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Abstract

The National Beekeeping and Honey Mission (NBHM), launched under the Atmanirbhar Bharat Abhiyan, marks a transformative step in integrating apiculture into India's sustainable agricultural framework. This mission aims to promote scientific beekeeping practices, enhance honey production and quality, and strengthen the honey value chain through research, capacity building, and infrastructure development. By aligning economic growth with ecological balance, the NBHM addresses multiple rural challenges, income diversification, women's empowerment, and environmental conservation. The initiative has significantly contributed to

expanding India's honey production, promoting export potential, and establishing testing and processing units across the country. However, challenges such as pesticide exposure, climate variability, and quality adulteration persist. Strengthening traceability, adopting digital innovations, and fostering institutional collaboration are essential to sustain the momentum of the "Sweet Revolution." Overall, the NBHM represents a model of integrated rural development, linking livelihood generation with ecological sustainability and national self-reliance.

Introduction: The Buzz Behind India's Sweet Revolution

Beekeeping, or apiculture, has long been an integral yet underappreciated component of India's rural economy. Recognizing its potential for enhancing farmers' income, biodiversity, and crop productivity, the Government of India launched the National Beekeeping and Honey Mission (NBHM) as a Central Sector Scheme under the Atmanirbhar Bharat Abhiyan. This

mission seeks to promote scientific beekeeping practices, increase honey production, and strengthen the honey value chain from farm to market. It is a strategic initiative to empower small and marginal farmers, especially in rural and tribal areas, while contributing to agricultural sustainability and environmental conservation.

Objectives of the National Beekeeping and Honey Mission

The NBHM aims to create a robust beekeeping sector in India through an integrated approach. The key objectives include:

- Promotion of Scientific Beekeeping: Encouraging farmers to adopt modern and sustainable apiculture techniques.
- Capacity Building and Skill Development: Organizing training, workshops, and field demonstrations for beekeepers and entrepreneurs.
- Enhancing Honey Production and Quality: Supporting the development of testing, processing, and packaging facilities to meet national and international standards.
- Strengthening Market Linkages: Building marketing and export infrastructure to promote Indian honey globally.
- Research and Technology Support: Promoting R&D to improve bee health, queen breeding, and colony management practices.



Implementation Framework

The National Bee Board (NBB) under the Department of Agriculture & Farmers Welfare (DA&FW) is the nodal agency responsible for implementing the mission. The scheme operates through three Mini Missions (MMs):

- MM-I: Development of scientific beekeeping and capacity building.

- MM-II: Creation of infrastructure for honey processing, quality testing, and marketing.
- MM-III: Research, technology generation, and innovation in beekeeping.

Funds are provided to state governments, research institutes, farmers' groups, and cooperatives under various components to ensure effective implementation.

Economic and Ecological Significance

Beekeeping is a low-cost, high-return enterprise that contributes significantly to both income generation and environmental health. The economic value of pollination services provided by honey bees is several times higher than that of honey itself. Bees enhance crop productivity by improving pollination in crops like mustard, sunflower, fruits, and vegetables.

Furthermore, beekeeping supports women's participation and livelihood diversification in rural areas. The mission aligns with the government's goal of doubling farmers' income and promoting eco-friendly agricultural practices.



Achievements and Impact

Since its inception, the NBHM has made notable progress:

- Establishment of Honey Testing Labs at national and regional levels.
- Promotion of Farmer Producer Organizations (FPOs) on beekeeping.
- Expansion of India's honey production to over 133,000 metric tonnes (2023).
- Increase in honey exports, with Indian honey reaching markets in USA, UAE, and Europe.
- Enhanced training programs and skill development initiatives benefiting thousands of rural youth and women entrepreneurs.

Challenges and Way Forward

Despite its success, the mission faces challenges such as pesticide use, climate change, bee diseases, and quality adulteration in the honey supply chain. Strengthening traceability systems, certification, and export standards is vital. Greater collaboration between research institutions, the private sector, and farmers' cooperatives will help sustain the momentum of

the sweet revolution. The future lies in technology integration—using digital platforms for hive monitoring, marketing, and connecting beekeepers with potential buyers. Promoting floral mapping and bee-friendly farming practices can also enhance productivity and biodiversity conservation.

Towards a Golden Future

The National Mission on Beekeeping and Honey is more than just a scheme—it represents a movement towards sustainable agriculture, rural empowerment, and ecological harmony. By strengthening the beekeeping sector, India is not

only boosting its honey industry but also ensuring food security and environmental balance. The mission stands as a testament to how small creatures can make a big difference in shaping a sustainable and prosperous rural economy.

Conclusion

The National Beekeeping and Honey Mission (NBHM) have emerged as a pivotal initiative in transforming India's apiculture sector into a driver of rural prosperity and environmental sustainability. By fostering scientific beekeeping, improving value addition, and expanding market linkages, the mission has created new income opportunities for farmers and rural entrepreneurs. Its emphasis on research, training, and technology adoption has not only enhanced honey productivity but also contributed to biodiversity conservation through improved pollination services. While significant

achievements have been made in infrastructure development and export promotion, addressing challenges such as pesticide impact, adulteration, and climate-induced bee losses remains critical. Moving forward, strengthening institutional partnerships, promoting digital hive monitoring, and integrating bee-friendly agricultural practices will be key to realizing the full potential of the Sweet Revolution. The NBHM thus stands as a model for inclusive growth where small-scale interventions yield large-scale benefits for both people and the planet.