



HONEY BEES AND APICULTURE - GS III MAINS

Q. Bees are one of the many insects in the world that can produce something that is beneficial to all of us. Enumerate the prospects and significance of Apiculture in India in this aspect. (15 marks, 250 words)

News: *Local farmers share sweet bounty of apiculture*

What's in the news:

- Across the landscapes of Goa, where nature rolls out its lushness in a hush, a honeyed buzz signals the burgeoning success of apiculture - the practice of beekeeping.
- Once considered a mere hobby, beekeeping is now a thriving hive of business for farmers, sweetening their profits from honey and beeswax production.

Prospects of Apiculture:

1. Geographical diversity:

- Besides the agricultural fields, several nectariferous plant species in the evergreen tropical and sub-tropical forests provide forage to honey bees.
- This offers a potential of about 200 million bee colonies as against 3.4 million bee colonies today.

2. Genetic diversity:

- There are only around 7 commercial importance honeybee species in the world, but five of them are present in India.
- Eg: Rock bee, Indian hive bee. Hence, apiculture is resilient towards climate change and environmental degradation.

3. Agrarian economy:

- Bee pollination as a new agricultural production strategy has immense possibilities in an agrarian country like India.
- If bees are incorporated into agriculture, the pollination is well-managed and crop yields increase significantly.

4. Thrust on food processing:

- Government is actively promoting food processing industries in the country to enhance rural income.
- Eg: policy measures such as PM SAMPADA. Honey is a high value product and hence aligns easily with the government strategies.

5. Rising industrial demand:

- Honey forms a key ingredient in the ayurveda and pharmaceutical sectors in India. It is also thought to support the treatment of several more specific ailments.



- Hence, the growth of AYUSH and pharmaceutical sectors is expected to create a positive impact on honey as an industrial raw material in India.

6. Rising domestic market:

- As a result of changing food habits and an increasing inclination of the consumers towards wellness foods and healthy alternatives of artificial sweeteners, the demand for honey is expected to increase in the coming years.
- The threat of COVID-19 infection has made people consume more because of its anti-microbial and anti-inflammatory properties.

Significance of Apiculture in India:

1. Enhance agricultural productivity:

- Bee hives neither demand additional land space nor do they compete with agriculture for any input. Also, they pollinate the crops to get higher yield and a better quality of produce.
- Eg: Comparing fields with bee boxes and those without, the studies have shown differences of 227% (capsicum), 160% (tomato), 133% (tur dal).

2. Secondary income:

- It is a source of sustainable income to the rural and tribal farmers.
- The 'low input high output' process is ideally suited for the small and marginal farmers and can also be adopted as a village industry. It can thus provide a way to attain the target of doubling farmers income.

3. Augments nutritional security:

- It provides valuable nutrition and traditional medicine in the form of honey, protein rich pollen and brood. This can help India address its severe malnutrition.

4. Employment generation:

- Beekeeping and honey processing are labour intensive, but not skill intensive. Hence, it provides employment opportunities for a large population, particularly rural women.

5. Ecological stability:

- Bees contribute to complex, interconnected ecosystems that allow a diverse number of different species to co-exist.
- As pollinators, bees play a part in every aspect of the ecosystem. They support the growth of trees, flowers, and other plants, which serve as food and shelter for creatures large and small.

6. Biological control:

- Beehive fences surrounding crops fields with beehives may serve as a humane and eco-friendly way to protect crops from elephants. Also, the efficient pollination of flowers helps to protect the crops against pest attacks.

Bees are one of the many insects in the world that can produce something that is beneficial to all of us. Honey has medicinal values and is also used as a food additive.