

REPORT ON THE 4TH DAY OF THE GREEN SKILL DEVELOPMENT PROGRAMME (GSDP)

Certificate Course on "Apiculturist (Wild Bee) – NTFP" for ST Candidates

Conducted by:

EIACP, Department of Environment & Climate Change, Government of Manipur

Day: 04

Date: 17 September 2026

Venue: College of Agriculture, Iroisemba, CAU, Imphal

Mode: Classroom lectures with PowerPoint presentations, followed by interactive discussions

Resource Persons

1. **Prof. Th. Robindro Singh**, Coordinator (MTTC and VTTC), College of Agriculture, Iroisemba, CAU, Imphal.
2. **Dr. Ngangom Uma Devi**, Assistant Professor, Entomology, College of Agriculture, Iroisemba, CAU, Imphal.

Topics of the Training Session

1. Different Species of Honeybees, Their Behaviour and Honey Yield
2. Role of Honeybees in Agriculture; Factors Affecting Bee Colonies; Honeybees and Pesticide Poisoning; Honey Production in Relation to Natural Resources; and Role of Organic Farming and Horticulture in Relation to Wild Honeybees

Proceedings of the 4th Day

The **fourth day of the Green Skill Development Programme (GSDP) – Certificate Course on "Apiculturist (Wild Bee) – NTFP" for ST Candidates**, being conducted by **EIACP, Department of Environment & Climate Change, Government of Manipur**, was held on **17 September 2026** at the **College of Agriculture, Iroisemba, CAU, Imphal**.

The Day 04 programme comprised two technical sessions focusing on different species of honeybees, their behaviour and honey yield, along with the role of honeybees in agriculture, pollination, colony health, pesticide exposure, natural resources and bee-friendly farming practices.

Session I: Different Species of Honeybees, Their Behaviour and Honey Yield

The first technical session was delivered by **Prof. Th. Robindro Singh, Coordinator (MTTC and VTTC), College of Agriculture, CAU, Imphal**. He

introduced the trainees to honeybees as social insects and highlighted their ecological and economic importance, particularly in honey production, crop pollination, biodiversity conservation and enhancement of agricultural productivity.

The trainees were introduced to major honeybee species, including *Apis dorsata* (Giant Honeybee), *Apis cerana indica* (Indian Honeybee), *Apis florea* (Little Honeybee) and *Apis mellifera* (European Honeybee), as well as *Tetragonula iridipennis* (Stingless Bee). Their characteristic features, nesting behaviour, level of aggression, suitability for management and approximate honey yields were discussed. Comparative characteristics and honey-producing potential of the different species were also explained.

Session II: Role of Honeybees in Agriculture and Bee-Friendly Farming Practices

The second technical session was delivered by **Dr. Ngangom Uma Devi, Assistant Professor, Entomology, College of Agriculture, Iroisemba, CAU, Imphal.**

The lecture highlighted the important role of honey bees as pollinators in agricultural fields, orchards and surrounding vegetation. The trainees were informed about the influence of pollination on fruit set, seed set, fruit size, shape and quality. The session also highlighted the economic importance of beekeeping through products such as honey, beeswax and propolis.

The session further covered the essential requirements for maintaining healthy bee colonies, including adequate food, clean water, suitable nesting conditions, a healthy queen, sufficient worker population and protection from environmental and chemical stresses. Major factors affecting colony health, such as nutrition, pests and diseases, weather conditions, pesticide exposure, habitat quality and beekeeping practices, were also discussed.

Honeybees and Pesticide Exposure

Special emphasis was given to pesticide exposure and its possible effects on honeybees. The trainees were informed about possible exposure routes, signs that may be observed following pesticide exposure and the importance of adopting safer pesticide-management practices.

The importance of **Integrated Pest Management (IPM)**, appropriate timing of pesticide application, minimising spray drift and protecting flowering areas and water sources was highlighted as measures for reducing risks to honeybees and other pollinators.

Honey Production and Natural Resources

The relationship between honey production and natural resources, particularly the availability of flowering plants, nectar and pollen, was explained. Factors influencing honey yield—including floral abundance, duration of flowering, weather conditions, colony strength and bee species—were discussed.

The importance of maintaining flowering trees, shrubs, field margins and other forage resources for sustaining bee populations and supporting honey production was also highlighted.

Organic Farming and Bee-Friendly Horticulture

The trainees were introduced to organic farming and bee-friendly horticultural practices. Maintaining flowering plants, conserving habitat corridors and field margins, adopting Integrated Pest Management and avoiding unnecessary insecticide applications during flowering periods and active bee-foraging hours were highlighted as important measures for protecting wild and managed bee populations.

Key Learning Outcomes

At the end of the fourth day's training, the participants gained an improved understanding of different honey bee species and their behaviour and honey-producing potential; the role of honey bees in crop pollination; requirements for maintaining healthy bee colonies; factors affecting colony health; risks associated with pesticide exposure; the relationship between natural floral resources and honey production; and the importance of organic farming, IPM and bee-friendly horticultural practices.

Conclusion

The **fourth day of the GSDP Certificate Course on "Apiculturist (Wild Bee) – NTFP"**, conducted by **EIACP, Department of Environment & Climate Change, Government of Manipur**, provided the trainees with technical knowledge on honeybee diversity, behaviour, honey production, pollination, colony health and sustainable bee-friendly agricultural practices.

The day's programme concluded with an interactive discussion, encouraging the trainees to identify local flowering resources, pesticide-related risks and wild bee habitats in their respective areas and to relate the knowledge gained during the training to local conditions and potential livelihood opportunities.

Glimpses of the 4th day of the Green Skill Development Programme (GSDP) – Certificate Course on "Apiculturist (Wild Bee) – NTFP" for ST Candidates, conducted by EIACP, Department of Environment & Climate Change, Government of Manipur, at the College of Agriculture, Iroisemba, CAU, Imphal, on 17 September 2026.





