

Apiculture: An Ecological Enterprise

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Introduction

Enterprise requires energy, empowerment, environment, and economy (Surya et al., 2021). In a climate changing regime, there is an encouragement for green enterprises, ecological conservation, and environment preservation (Pauleit et al., 2017). Insects are widely acknowledged indicators of climate change (Halsch et al., 2021). Therefore, any insect-based enterprises can have long-term perspectives of environment economics and employment (Madau et al., 2020).

Enterprise is an economic activity (Davydova et al., 2019) that requires acquisition of skills, resources and management (Drábek et al., 2017). Thus, empowerment, capacity building and financial support as well as continuous improvement of technology are essential components (Mormina 2019). Numerous development programmes of the Government fail to reach the springboard. There can be many reasons and factors, but the major ones are poor selection of enterprise by the individual and of the individual (Yoshino and Taghizadeh-Hesary, 2016). Poor selection of enterprise by an individual can be best explained by an example of trying fisheries in arid areas (Shava and Gunhidzirai, 2017). Poor selection of an individual similarly means suggesting dairy to a landless individual who has no access to fodder and veterinary services (Duguma, 2022).

Apiculture

Enterprise

The enterprise related to rearing to honeybees is referred as Apiculture (Saha and Bhandana 2022). Beehive is a colony, consisting of different castes of bees viz., workers, drones and queen, besides numerous immature forms. These castes have well defined role and responsibilities (Rana and Mishra 2022) in the colony and outside it. This is also referred as Division of labour, as example of management setup by a social insect. Thus, rearing a highly organized insect colony with well-defined division labour, the entrepreneur to be successful must be trained on many skills (Ghosh et al. 2020)

Energy

The entrepreneur decided or agreed to adopt Beekeeping, should be energetic. This is very important. Unlike any other entrepreneur, in case of Beekeeping the person must be proactive willing to work extra mile. This is because; during different season the availability of flowers in the given area of operation may vary so requiring constant shifting of the Bee colonies (Gallant et al., 2014). Shifting is also referred as migration. This operation in Beekeeping is shifting of the Bee colonies from a place of diminishing flowers for foraging of bees to an area of abundant foraging opportunities. It is a continuous process in Beekeeping, and calls for patience and energy mobilization (Pilati and Fontana, 2020).

Empowerment

Managing Bee colonies and harvesting honey and other products from Beehive is a profitable and skillful job. Bees are highly agile and active flying insects. In this sense its management needs technical and skills. Meaning thereby, the entrepreneur must be highly trained or those interested required skill based technical training (Bajago, 2022).

The usual practice of one day training or 45 minutes implemented by Extension department or Technology of transfer Institutes, may not be considered as a skilled training. The skill-based training is breaking the entire components or operation of the Beekeeping into many smaller elements. Such skill-based training is usually of longer duration, where the trainee learns each step of the Beekeeping by doing (Adams 2018). These training are expensive in terms of investment of energy as well as resources.

Environment

The environment is the basic inventory for Beekeeping. Bees are well known pollinators (Khalifa et al., 2021). This means, Bees in the process of searching and collecting nectar from the flowers, they pollinate the flowers they visit. Pollination is an important process for fruiting and seed production. Apart from this they are the important agent for genetic diversity among plant species in an ecology function (Christopher et al., 2020).

Activities of Bees and other pollinators are prominent on the flowering plants in the ecosystem (Khalifa et al., 2021). Not just availability of flowering plants but flowers and during of flowers for foraging is more important. In nature there are plants with flowers having no or low nectar and pollen, such plants are not preferred forage by Bees (Russell et al., 2015). Beekeeping is successful in areas where diversity of flowering plants are more and

flowering period varies widely. Such conditions reduce the cost of migration of bee colonies (Muth et al., 2016).

High input agricultural areas are also generally not suitable for Beekeeping (Graham et al., 2022). There may be crop diversity, ensuring flowers and foraging opportunities for Bees, threat of encountering pesticides is always more. Agro-ecological areas where cropping is less dependent on pesticides may favour Beekeeping, but it is always beyond the control of the Beekeeper. This is one of the major constraints of Beekeeping in well endowed cropping regions (Manzoor and Pervez, 2022). Forests are excellent source of flower diversity and pesticide free environment - a good place to practice Beekeeping. However, this can be successful, if there is a benefit sharing agreement with the local Joint Forest Management Committees (Agera, 2011).

Economy

Economic benefits are the ultimate outcome any successful enterprise. The quantum of net returns from an enterprise dependent on many exigencies cannot be predicted (Freeman 1982). It is highly variable and volatile. However, the volatility can be stabilized, by imparting skilled based training to the Beekeeper (Ritten et al., 2018), preparing him to overcome or to reduce the impact of exogenic factors (Simone-Finstrom et al., 2016).

The Entrepreneur needs a scale of funding through credit on subsidized rate to invest in Beekeeping. Generally, Beekeeping is part time businesses which can in association his existing enterprise or livelihood practices (Hinton et al., 2021).

Government of India through its schemes is promoting Beekeeping among youths, farmers, and forest dependents. The enterprise besides cash returns helps in crop productivity and environmental service. But the underlining fact is Beekeeping is highly skilled enterprise requires patience and handholding for a while in its initial phase (<https://agricoop.nic.in/Documents/Success-Story-For-approval.pdf>).

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