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Hygienic and Sustainable honey collecting methods from Rock bee colonies; A Training programme in Nilgiri Biosphere Reserve, Western Ghats, Nilgiris, India.

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Introduction:

The Nilgiri Biosphere Reserve (NBR) is a diversified Biological, Social and Cultural region in Western Ghats of (south) India. Geographically it is well spread as 5520 sq.km, politically covered in three states namely Tamilnadu, Kerala and Karnataka of southern India. The NBR is a home for numerous flora and fauna in which number of them are endemic and endangered. This ecological diversity reserve is consisting of six wildlife reserves and five national parks. The montane-shola grass land is a unique natural system found on the higher elevation >1800mtrs MSL followed by different forest types like Evergreen forests, Semi evergreen forests, Moist deciduous forests, Dry deciduous forests and Dry & Scrub forests till 400mtrs MSL

Honey bee species: The ecological diversity/security of NBR provides an appropriate feeding and nesting ground for four major honey producing bees, *Apis dorsata*, (Rock bee) *Apis cerana*, *Apis florea* and Sting less bees are found abundance in NBR. The bee species like *dorsata* and *florea* are open nesting and migratory. The seasonal migration in and around NBR is influenced by all kinds of forest types which is mentioned earlier. The *Apis cerana*, cavity nesting bees are found through out NBR with many ecotypes, sites including underground and over the ground. The Trigona: two major species of sting less bees are found in all over NBR except few higher hills over 1900mtrsMSL

Communities of NBR: The people of NBR can be categorized mainly in to two sections. The first is the Indigenous (tribal) communities and secondly the non tribal communities. The non tribal communities are mainly migrants from different parts of the country, settled for tourism; agriculture and trade are mostly occupied non forested areas. There are 32 different Indigenous-tribal communities living in NBR amongst many are ethnic, hunter gatherers and primitive tribal groups, mostly living inside forested and even in protected areas also.

These people's Cultural, Social and Economical needs are very much dependent to Honey and Bee brood from the forest. The indigenous knowledge on bee nesting, foraging pattern, seasonal migration, bee flora, and bee behavior are widely recognized.

Honey Collection: Every tribal group living in NBR has developed their own appropriate tools, practices and protecting mechanism to collect honey from High rock cliffs, Tall trees and thorny shrubs either in day light or in dark. Rock bee honey has been collected traditionally in groups. *Cerana*, *florea* and sting less bee honeys are harvested individually for personal consumption and traded less. In every season, the first honey collected is always shared amongst village mates and subsequent harvests are traded. Long ago, honey was an item as barter and later for cash.

Rock bees are migratory and efficient forager, it produces large quantity of honey ranging from 2 to 26kg per colony, depends on size of a colony and flowering season. The rock bee honey caters 76% of local market demands.

Livelihood is in threat? : Traditionally the wild honey is squeezed out from combs (poor quality), mixed up with different qualities which are generally purchased by traders for lower prices, later supplied to big pharmaceutical companies. The lower rates for honey pressurized the collectors for indiscriminate and destructive methods for larger volume. Earlier days, bee brood is eaten, as source of nutrients but now days which is mostly replaced by other supplementary; has less use, still the hunters removes at the time of honey collection leads to destruction to brood. The changing policies of the government and forest related laws become strict influences the livelihood of tribal communities; become vulnerable.

Need for the training on Hygienic & Sustainable honey collection: Keystone foundation is a registered trust; not for profit organization, working in the areas of nature conservation, tribal livelihood and village based enterprise developments. Keystone has documented the traditional honey gathering practices and done a complete honey resource assessment in NBR. This documentation instruments the training module for the indigenous communities of NBR.

Hygienic honey collection: a. Time of the harvest is more relevant towards the maturity of honey means right water content in the honey. b. Training is provided to the collectors to not to squeeze combs (after uncapping, lateral cutting of mid rib to draining honey out). c.using clean containers. D. store honey at right temperature e. grade honey as per source of nectar and taste.

Sustainable honey collection: a. harvest/remove honey portion on the colony only. b.harvest only at capped stage c.leave the brood without damaging it. D.avoid excessive smoke and never use fire while stunning the bees. B.harvest 80% of the population/colony not all. F.document the ecological changes and population of colonies. G. with fair price & better marketing arrangements

The trainings organized in 2007:

January: Training to Three Van Samarakshi Samithi in Nilambur south/north Division, Kerala state

February: Training to Three Eco-development committees, Parmabikulam wildlife Sanctuary, Kerala state

One training: The honey hunters of Bellathy combai, Nilgiris

March: One training: The honey hunters of Coonoor, Nilgiris

Two days training to Eco-dev, committee from Parambikulam at Kotagiri.

April: The Forest personnel and VSS, VFC's facilitators from Tamilnadu, Karnataka and Kerala state

Four day training to honey gatherers of Western Ghats.

May One training to the honey gatherers of Timbam hills

Two days training The VSS & forest official of Chengotta region

(The power point presentation will be supported with photographs, sketches and about Keystone foundation)