Abstract

Worldwide, 200 million tribal communities live in and depend on forests for their livelihood, food, medicine and shelter. Tribal people are the repository of accumulated experience and knowledge of indigenous flora and fauna. They have developed their own cultures, customs, taboos, legends, myths, tribal lore, songs, food and medical practices. By empirical reasoning and by trial and error they have screened and developed a wider knowledge of their ecosystem. Traditionally, native plants were integrated into every facet of daily living among tribal communities.

Dindigul District of Tamilnadu, India, houses two important hill ranges namely the Palni Hills and the Sirumalai Hills. Paliyans are living in both these hill ranges. Micro studies have been carried out at Sirumalai Hills. The Palni Hills, a part of the Western Ghats and a hotspot of India, have unique vegetation, faunai diversity and tribal communities. A study on the ethnobotanical knowledge of the Paliyans emerged to understand their dependency on the ecosystem and to develop futuristic scenarios and strategies to enrich the Paliyans and conserve their ecosystem.

Information about the Paliyans and forests was also collected from the relevant Government Orders and Gazettes, newspaper clippings, magazines, technical reports and web pages. Based on the details collected from the above mentioned sources, a semi structured interview schedule was prepared and tested with a settlement. Purposive random sampling method was employed to collect data from the 10 settlements. As the study is multidisciplinary in approach, tools from fields of anthropology, sociology, ecology and futurology have been drawn together. The tools that have been used for data collection and analysis are Participant Observation, Semi-Structure Interview, Ethnobotanical Appraisal, Photographs, Voucher specimens, Individual forecasting and Scenario building.

The Paliyans have understood the ecology of the hill and made their life in harmony with the ecology. Their food pattern also changes according to the climate and the natural resources available. Since the dynamic interaction of the Paliyans to the forests is quite complex, long-term relationships need to be forged with the Paliyan community to understand them. From being food collectors and honey hunters, the Paliyans have also transformed themselves into food cultivators, wage workers and beekeepers. The majority of the Paliyan groups are dependent on the collection of Non Timber Forest Product (NTFP) for their economy; their dependence on the forest resources varies from one group to another in accordance with the phenology of the flora. The entry of people from the plains, the rise of plantations and the contacts with the Non Governmental Organisations (NGOs) have brought diversified
changes in the tribal life and their ecosystems. Owing to development and encroachment, the Palni Hills are being degraded which in turn affects the livelihood of the Paliyans. Transmission of tribal knowledge is declining as the current generation is inclined towards the urban fancies of the modern civilization.

A total of 138 plants are intensively investigated in this study, covering mainly the higher plants (Angiosperms) found in the lower Palni hills. More than 65% of the plants studied are of medicinal importance. These plants form the basis of primary health care among the Paliyan community. 25% of the plant resources form an edible source and the remaining 10% are used in rituals, housing and making implements. Leaves form the major resource among the plants investigated, compared with that of the fruits, rhizome, seeds, bark and the tuber. In a few instances the entire plant is consumed, especially medicinal herbs and greens. Various parts are used separately and in combination with other plant or animal based products. The standardization of the dosage varies, depending upon the conditions. The knowledge on plants especially for medical care is mainly obtained from the older people, who are around 50 years of age. The younger generation has good knowledge on the commercial species and more than 80% of them are aware of the wild edible resources.

Depending upon the nature of the forests the Paliyans collect the non-timber forest products. The Paliyan-Forest relationship itself has transformed from a relationship subsisting on forest resources to that of sustenance by commercializing forest resources. The Paliyans of Palni hills now collect items of commercial value due to the external influences by the middlemen and local herbal traders.

From the point of conservation, the Paliyan community has established innovative mechanisms by growing the rare plants in their vicinity which helps in maintaining the gene pool. Many families raise their favourite tubers - *Dioscorea pentaphylla* and *Dioscorea bulbifera* - around their homes. Greens of high nutritive value are also grown in the houses. Medicines for primary healthcare, especially for poisonous bites, are also grown as community initiatives in few settlements. Most of the Paliyans are aware of the need of conservation of natural resources. Whenever they collect the root tuber *Dioscorea sp.*, they leave a part of the tuber for its regeneration. This ensures the availability of the tuber during the next season. Similarly in the process of honey collection, they leave a part of the comb undisturbed. From multiple dimensions, the value of conservation and the need of resources are well built in the minds of the Paliyan community.
Based on the focus group discussions, personal interviews and expert opinions the preferable, probable and possible futuristic scenarios have been developed. It is even more important that any conservation action should bridge the interaction of humans especially the tribal communities to their ecosystem. From a phase of total dependency, the Paliyans today have evolved to depend on the resource mainly for commerce. Depending upon the season, there is a market for the plant resource and depending upon the plant resource there is overexploitation of the species for market. The Paliyan-plant interaction cannot be eliminated because of their strong cultural linkages with plants. In a possible future scenario, even if the Paliyans are moved to a new ecosystem, they will generate all the required species close by for their existence.

No longer satisfied with traditional values, the tribal communities wants to have best infrastructure and form a rural village set up. They look on to the West to solve their complex problems. Finally the west is now looking back to the traditional communities for sustainable solutions. Therefore it is very important to bring mass awareness among the Paliyan community to understand the values of their ecosystem. The eco-friendly patterns prominent among the Paliyan community can provide an ecological design for sustainable futures.