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Revitalisation of the Indigenous Flora (Particularly Medicinal Plants) and Traditional Knowledge of the Coromandel Coastal Region of South India

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[Submitted Paper]

Introduction

The indigenous vegetation of the Coromandel Coast bio-region is known as Tropical Dry Evergreen Forest (TDEF). This forest type is found only in South India and Sri Lanka and provides a rare biological richness due to its very high species density, but it is now close to extinction. There are only three small remaining areas (approximately 4000 acres) of this forest type in the bio-region and although they receive protection from the State Forest Department there is no official policy to revitalise them.

There are more than 7000 species of plants used for medicinal purposes by the people of India. This medical heritage represents one of the longest unbroken traditions in human civilisation. There are two main streams of medicinal knowledge in India; the local folk medicine located in the villages, and the codified knowledge systems of Ayurveda, Sidha, Unani and Tebatten. Of these two systems, local medicine is perhaps the most practical and accessible for basic health care needs in the villages.

This particular bio-region is home to at least 400 species of medicinal plants that have been used for centuries by traditional practitioners of herbal medicine. However, the few remaining areas of TDEF are under constant threat and genetic resources are being rapidly depleted from, for example, clearing by forest departments to plant monoculture exotic fuelwood species or from over exploitation by the pharmaceutical industry which collects 95% of its plant materials from wild sources such as these. A few local, plant doctors still know the uses of many of the medicinal plants of these areas and in some cases the knowledge has been preserved on palm leaf manuscripts, some written eight generations ago. However much of the knowledge is being lost in a negative cycle of cause and effect stemming from the degradation of the TDEF = lack of raw drugs = lack of practice = depletion of skills = cessation of networking between practitioners = loss of self esteem = lack of young people taking interest in learning the skills.

Strategies for revitalization

Within the bio-region is the international township of Auroville which was established in 1968. Land restoration both in and around Auroville has been an ongoing process since this time, with the result that “new” forests have been established and over 2 million trees planted. Pitchandikulam is a community within Auroville which has been heavily involved in this “Greenwork”, particularly with regard to medicinal plants. Pitchandikulam is now, after 25 years, a diverse eco-system containing more than 400 species of plants covering an area of approximately 50 acres. Windmills, Biogas and Solar Power are used for the communities energy needs and the gardens, orchards, woodlots and forest sanctuaries are often used as training sites for many aspects of eco-restoration work.

In 1992, The Foundation for Revitalisation of Local Health Traditions (FRLHT) incorporated Pitchandikulam as one of its Medicinal Plant Conservation Parks. FRLHT is a non-governmental organisation focusing on re-building India’s vast traditional medical knowledge. In an effort to focus attention on India’s ethno-medical heritage, one of the programmes that FRLHT has embarked on is that of conservation as well as sustainable use of medicinal plants, especially in the area of primary health care. The foundation’s thrust areas include establishing a computerised information network on medicinal plants and natural products, promoting the utilisation of traditional medicine in rural and urban areas and establishing cooperative links with other traditional medicinal systems of the world.

In 1993, Pitchandikulam Bio-resource Centre was established as a focal point for indigenous forest regenerative work in Auroville with special emphasis on the medicinal plant aspect and interaction with the local community, particularly traditional plant doctors, school children and other interested organisations and individuals. An important aspect of this work is training of community health workers, village development workers and school children. The centre displays raw drugs, seeds, examples of local traditional technologies and a photographic presentation of medicinal plants; and includes a library, ethno-botanical and medicinal demonstration gardens and nurseries.

Examples of medicinal plants of the local area

- *Rauwolfia tetraphylla*: Snake and scorpion bites are common in this area and are often highly poisonous. All parts of this plant are considered to be useful in curing snake (most) and scorpion bites. The leaves in particular are useful, being applied in dosages of about 10 grams after being ground. The fruits are edible and are considered to act as a preventive medicine for snake bites.
- *Achyranthus aspera*: This plant is considered to be an important auspicious medicinal plant. All parts of the plant are medicinally useful. The roots can be used as a tooth brush to strengthen the teeth, cure toothache, to reduce swelling in the chin and to give freshness to the face. A preparation of the leaves (pasted with sesame oil) is believed to cure dog bites. Eating the roots (pasted with water) reduces the effects of scorpion and snake bites.

- *Leucas aspera*: The whole plant is considered to be medicinally useful and sacred. The flowers can be collected in the mornings (traditionally it is believed that plants have greater powers depending on when they are collected), boiled with water and then given as cough medicine for infants. The leaf juice is considered to be useful for many different types of skin troubles.
- *Tinospora cordifolia*: In Sanskrit, this plant is called Amruth. The word Amruth literally means immortal. It is a “wonder” plant known traditionally for its rejuvenating properties, particularly the leaves and stems. The liquid obtained from boiling the leaf can be used as a medicine for diabetes.

Continuing work

1. Establishment of a community register that documents the rich traditional knowledge of a given village's use of bio-resources, their availability and conservation practices related to these resources. The objectives are as follows: to collect information with community involvement of school children, youth clubs and women's groups to share the local knowledge of bio-resources for mutual benefit with other communities in India to revitalise local health traditions and technologies and to nurture respect for local plant doctors who are being devalued in the face of powerful advertising of western medicines.
2. An essential aspect of the overall work is the creation and maintenance of havens in which the indigenous forest may develop naturally and serve as a gene bank. The strategies are as follows: to reintroduce individual species into their former habitats, to regenerate whole communities and to conserve rare and endangered species to protect 2,500 acres of remnant vegetation using local community support in collaboration with the Forestry Department.
3. Spreading the message to local people about the importance of the indigenous forest. For example, to encourage the understanding that all remaining areas of the TDEF be left undisturbed and to coordinate efforts by communities that are aimed at the preservation and restoration of remnant forest.
4. Environmental education programmes are being developed, for example: developing curriculum for village schools and for adult education programmes using information about local bio-resources and traditional skills and technologies to empower and support local communities in running training programmes with the practitioners of local folk medicine.
5. To continue establishment of individual village gardens containing food and medicinal plants.
6. To establish Herbal Dispensaries in the villages which serve the local communities.

Conclusion

Through our outreach work with revitalising local medical knowledge and skills, together with protecting and re-establishing the bio-resources (in particular medicinal plants), we are endeavouring to establish a sub-culture that can survive within the

wider reality of modern India. A sub-culture that can continue to seek and find its inspiration from the diversity of the biosphere and that has a firm enough base to sustain itself, that interfaces with the world as a whole and relates equally well to the traditional villagers who seek to maintain their lifestyles within the changed landscape of industrialised India.