

Mountain Forum Bulletin

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Managing Mountain Biodiversity for Better Lives

Monitoring Biodiversity on the Saharan Slopes of the
High Atlas, Morocco

Biodiversity Assessment in Lobo-San Juan Mountains

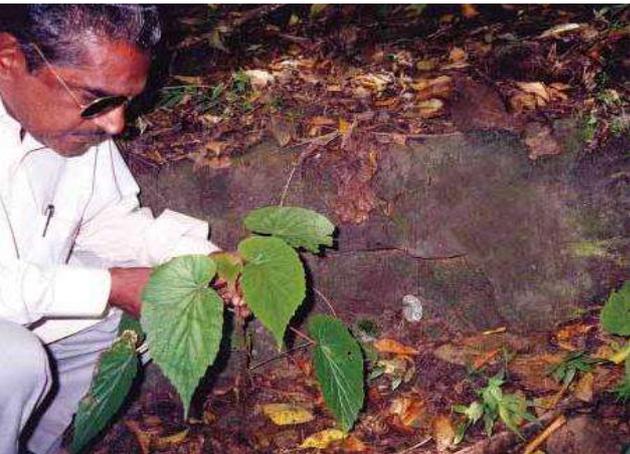
A Challenge for Environmental Continuity in Italian Mountains

Maintaining Bio-cultural Diversity in the Andes

Lessons from Kipahulu Valley, Maui

Preserving Mountain Biodiversity in the Western Ghats of the Madurai District, Tamil Nadu

S. P. Anandan



A very rare and endangered medicinal plant (*Begonia malabarica*) in Kodaikanal Hills, Western Ghats, India. Photo: S. P. Anandan

Long term conservation of mountain biodiversity relies on knowledge of its biodiversity, coupled with integrated efforts to protect and manage this diversity in a sustainable manner. Before ascertaining fundamental biological characteristics, such as genetic strains, species and ecological assemblages present, we must first assess the value of traditional knowledge of indigenous communities living in mountains.

Sound conservation strategies can be initiated in the Western Ghats range of mountains in southern Tamil Nadu, India while identifying valuable biological resources and patterns of resource usage in local and indigenous Communities of this mountain ecosystem. As a conservation organisation engaged in documenting floral and fauna diversity in Saduragiri Hills of the Western Ghats in Madurai District, the Foundation for Research & Sustainable Development (FRSD) suggests several strategies for the betterment of the local and indigenous communities' livelihoods; such as the Paliyar tribes - inhabitants of the Western Ghats, a geographically isolated and exploited area.

Strategies should complement protection measures, whereas indigenous communities utilising mountain resources need to financially benefit for their efforts to protect mountain ecology.

Sustainable agro-ecosystems, agro-pastoral systems, and other sustainable land use practices of the tribal community in the Western Ghats can be applied since these practices are based on traditional management techniques.

Sustainable development of tribal community people (the natural guardians of the mountains) in mountains and in areas adjacent to mountains. Tribes offer prayers and often worship mountain spirits. This can be done only after recalling the tribes back to their natural habitats. Thus, we can restore their cultural identity.

Restoration techniques of degraded lands and ecological reserves used by tribes in the past. Recreating lost habitats (like tribal huts, hunting posts etc.) will definitely contribute to the conservation of biodiversity in the Western Ghats. The huts built by Paliyar tribes in Kodaikanal hills can withstand any climate and the walls of the huts are built using indigenous knowledge.

Documentation of the traditional tribal practices, flora and fauna endemic to Saduragiri Hills, land use practices and ethno botanical knowledge of mountain dwellers, before the British Raj they were under the control of zamindars (land owners). A computerised database in CD ROM format could be created after carrying out proper biological surveys in the Western Ghats. It is obvious that there is a scarcity of biodiversity data for the ecosystems in Saduragiri, Shenbagthoppu, Sethur and other hills in Madurai and Virudhunagar districts of Tamil Nadu, India. Computerised databases will offer several opportunities for professional linkages not only with scientific community, but also assist with the updating of the Indian Government's national biological inventories.

Restoration of the faith of the Paliyar Tribes in the Western Ghats, especially in spirituality and ecology of sacred groves, forest spirits, through rehabilitation of the forest temples and statues of deities, which are said to guard mountains and forests. Once a month, on full moon days, the tribes in the Saduragiri hills worship the Vanadevada (protective deities of the forests). Sacred groves in the Western Ghats are genetic reservoirs for wild species.

Initiating steps for communal management of natural resources by the local agrarian communities living in areas adjacent to Saduragiri hills. Tribes who have migrated to plains areas could collaborate with farmers in such activities by utilising traditional knowledge inherited from the Paliyar tribes.



A rare and sacred tree worshipped by indigenous communities (Hindus and Muslims) in Athi Kail, Western Ghats, India. Photo: S. P. Anandan

There is great potential value for tropical forests to be extracted as forest produce from the Saduragiri and its neighbouring hills can encourage establishing extractive reserves. FRSD could conduct research on the economics of extractive reserves in the Saduragiri hills to analyse its potential and limitations.

Native trees in Saduragiri and its surrounding hilly terrain should be reintroduced in order to eliminate alien invasive species like *Prosopis juliflora* that have been introduced in the region. A comparative study will be conducted on the rate of ecosystem recovery after a mixture of species have been introduced for reforestation in Saduragiri hills. The study will analyse the reasons for the decline of the number of species, which were found 50 years ago. A red list of rare and endangered species will be prepared to launch a campaign to save rare species that are threatened by plant collectors and traditional medical practitioners (this will be carried out with the help of Paliyar tribes in Saduragiri Hills). Such measures will control unsustainable utilisation of indigenous medicinal plants for commercial purposes.

In order to reduce poverty of the natural guardians of our mountains and initiate steps for ex situ conservation of rare herbs endemic to Saduragiri Hills a cooperative tribal market will be formed beneath Saduragiri hills to market the forest produces collected by the Tribes (Paliyars).

By educating the tribes, with printed/illustrated articles on the past life of Paliyar tribes i.e. the ecological footprints of their ancestors, revival of the lost spirit and native excellence could be accomplished.

Formation of endogenous development centres in all the vulnerable hills and within the adjacent mountainous areas; wherein only tribal people will be admitted after proper training.

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