

Adaptive Management of Medicinal Plants and Non Timber Forest Products

Strategies, Implications and Policy



Editors

Giridhar A. Kinhal
R. Jagannatha Rao

9. DOCUMENTATION AND PROMOTION OF INDIGENOUS KNOWLEDGE FOR NTFP MANAGEMENT – A CASE OF HONEY HARVESTING

Kunal Sharma and Samita Vasudevan

Abstract: Indigenous people in the Nilgiris have a rich heritage of traditional knowledge that has been used for centuries and is a major component of their livelihood systems. Groups like the Kurumbas are known to be medicine men and held in much awe by other communities. With growing acknowledgement of gaps in understanding traditional systems, Keystone foundation has attempted to document facets of wealth, in close cooperation with community members. This paper presents various attempts of keystone that include documentation of seed knowledge by building seed banks, publication of the Kurumba medicine book in their language, documentation of local art and craft traditions, ongoing work on a floral guide to the Nilgiris in local languages, mapping of ancestral domains in close cooperation with Adivasis to demarcate non-timber forest management (NTFP) resource use, documentation of traditional sacred groves, which form an important part of their social and cultural milieu and documentation of traditional practices with respect to NTFP management. Here is a local perspective from the Nilgiris, where active documentation has resulted in protection and promotion of indigenous knowledge.

Keywords: Documentation, Honey harvesting, Indigenous communities, NTFPs, Traditional knowledge

1. Introduction

It is apparent that the livelihood systems and traditional knowledge of indigenous people are closely intertwined. Centuries of living in nature induced obscurity has resulted in a symbiotic and peaceful coexistence with her creations. Indigenous people are born, brought up and die in the close vicinity of the forests. Forest is the common thread in all their aspects of life, whether it is marriage, livelihood or death. The entire gamut of activities that he undertakes is linked to the forest. It is the forest, which provides resources for food, cloth and shelter. Not only this, forests also satisfy cultural and religious aspirations of the people. It has been said that they are living archaeological museums of ancient traditions and cultural heritage of our nation. Their ethno botanical knowledge, traditional arts and crafts and survival strategies have been developed so as to achieve a high degree of finesse. Indigenous knowledge developed through the ages is used for existential purposes such as food, shelter, interactions with other communities

and so on. Indigenous community have been intricately attached to the nature and have evolved a vast amount of indigenous knowledge known mostly to them and scarcely filtering to the outside world, besides much of their knowledge systems is transferred orally from generation to generation and is rarely documented. The possession of indigenous knowledge and the fear of possible loss of the systems have led to an intensified efforts by numerous groups to preserve at least a part of it. In the current scenario, when much of their knowledge is being lost due to external and internal forces, it becomes imperative to preserve their oral as well as socio-cultural traditions.

An attempt has been made to preserve their traditional knowledge. Working with honey hunters, practitioners of indigenous medicines and knowledgeable elders as well as youngsters, it has taken persistent effort to harness the deep combs of knowledge stored within, and use this knowledge to increase livelihood and cultural options for the people. This has been done through multiple course of actions such as sale of their paintings, publication of books to be used by Adivasi themselves, providing interpretation centres for children and so on.

2. Indigenous Knowledge

Indigenous knowledge (IK) refers to the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area (Grenier, 1998). These sets of understandings, interpretations and meanings are part of a cultural complex that encompass language, naming and classification systems, ways of using resources, rituals, spirituality and a worldview. The development of IK systems, covering all aspects of life, including management of the natural resources, has been a matter of survival to the people, who generated these systems. Such knowledge systems are cumulative, representing generations of experience, and trial and error experiments.

Indigenous knowledge has two powerful advantages over outside knowledge- it is of little or no cost, and is readily available (Kothari, 1995). Indigenous knowledge has several uses for the community that holds it. If properly documented and used, it can be used for livelihood strategies, can put new light into traditional forms of agriculture, and can help in improving health care options as these people do not necessarily have access to modern health care systems. IK is stored in peoples' memories and activities, and is expressed in the form of stories, songs, folklore, proverbs, dances myths, cultural values, beliefs, rituals, community laws, local language and taxonomy, agricultural practices, equipment, materials, plant species, and animal breeds. IK is shared and communicated orally, by specific examples and through culture.

3. Study Site

The Nilgiri Biosphere reserve (NBR) in the Western Ghats lies at the trijunction of three southern states of India - Kerala, Tamil Nadu and Karnataka, and includes high hills with a number of off shoot ranges. The south-west slopes are steep, while on the eastern side the slopes are relatively gentle. The northern parts extend into the Mysore plateau and the southern tail form relatively smaller hills in the west of the Coimbatore plains. The Palghat Gap separates the NBR from the southern Western Ghats. The highest elevations of the NBR are over 2500 metres and the lowest below 400 metres. The Nilgiris, forming a part of the Nilgiris Biosphere Reserve in the Western Ghats is home to moist, dry, evergreen and montane (*shola*) tropical forests. The Western Ghats, and the Nilgiris in particular, harbour a wealth of flora and fauna and many are endemic to the region. The NBR is 0.15% of India's land area and has 20% of all angiosperms, 15% of all butterflies and 23% of all vertebrates. The rich flora and fauna has resulted in declaring several areas as protected which includes Nagarhole, Bandipur, Muthanga, Mudumalai, Mukurthi and Silent Valley regions.

The Nilgiri Biosphere has a large number of indigenous communities, most of them are forest dwellers and hunter gatherers. These distinct ethnic groups have small populations and live in geographical concentrations. The NBR forms home to several Adivasi communities, including the only surviving hunter-gatherers of the Indian Sub-continent - the Cholanaikans in the New Amarambalam of Nilgiris. Apart from the Todas - a well known pastoral group in the upper Nilgiris and others such as Paniyas, Irulas, Kurumbas, Kurichiyans, Mullukurumbans, Adivyas, Alyars, etc.

4. Adivasi Dependence on Forests

Adivasis are predominantly collectors of forest produce, which they use to sustain their nutrition and economic needs. Without being excessive, they have used forest resources for their own sustenance. Most of these products come under the definition of NTFPs or Non Timber Forest Produce. The role of NTFPs in the economy of the Adivasi people cannot be undermined. With the growing realization of the importance of these resources, attention has now turned towards maintaining their role in the economic independence of the people. A lot of work has been done by several groups to alleviate poverty using the NTFPs. From proper harvest techniques to formation of cooperative for effective sale, to efforts for the eradication of unscrupulous middlemen, and to productive value addition - the spectrum of work done is impressive.

However, an important fact occasionally overlooked is that the Adivasi was already aware of the role and importance of NTFPs much before these studies

realized their importance. They have been using the NTFPs since they probably started living in the forests and their indigenous or ethno knowledge of their surroundings is immense, diversified and still remains to be totally unearthed. Numerous instances have been documented wherein the Adivasi shows precise knowledge with respect to the properties of a particular plant. Traditionally they used to harvest species as per the time schedule as a result of which there was minimal harm to the harvested species. Adivasi paintings and oral tradition make a mention of their relations with the forest. Traditional vaidyas are still the mainstay for the indigenous people and their services are taken great use of. This reciprocal relationship underscores the importance and the need to preserve NTFP resources. Promotion, preservation and documentation of indigenous knowledge can go a long way to achieve this objective.

5. Conservation of Indigenous Knowledge

5.1. Documentation of indigenous seed knowledge by building seed banks

An attempt has been made to conserve the indigenous knowledge by recording local wisdom in the form of seed documentation. With the help of indigenous people, information about the local name of the species, habit (whether it is tree, shrub or climber), appearance of the flower or the fruit, period of flowering, habitat, availability of the specie in the locality, animals dependent on the species and finally the uses of the concerned species were gathered. Seed banks serve as a biodiversity centre, where the knowledge of people can be preserved. Workshops and regular meetings have been organized to consolidate the knowledge from different sources and use it for a thorough understanding of species.

5.2. Publication of the Kurumba medicine book in their language

A project was initiated to publish the medicine book because of the perceived felt need that the tribal children are highly neglected, and with little access to ancestral customs. This book attempts to provide children and adults alike to read and question the writers from their own communities. A number of Adivasi volunteers have made the illustrations for the book, and have also written the information in their local language.

5.3. Documentation of local art and craft traditions

Indigenous people have expertise in documenting their traditions using the visual medium of paintings, craft, tattoos etc. Many forms are yet to be thoroughly scrutinized. 'Ajile bottu' is the tattoo worn by Kurumba tribal women on their forehead. Kurumba youth have joined together to form a group with this

name to revive their tradition. They have also been instrumental in taking stock of the Kurumba cultural situation, health and traditional practices.

6. NTFP Resource Use in NBR

It is necessary to assess the traditional domains of different sub groups of Adivasis, which has helped in gauging the movement for NTFP collection, and has provided the valuable insights into our ongoing exercise of resource assessment and ecological monitoring of NTFP resources. This effort is necessary, because of the fast dwindling traditional knowledge amongst the tribal youth, who are no longer aware of their village lands or the process by which village common lands were demarcated between different villages.

6.1. Traditional practices for NTFP harvest

Adivasis collect a number of NTFP species, which are useful to them culturally and economically. Each step of harvest has evolved over a process of several years and has been ingrained in the minds of the Adivasi. Resource management is of paramount importance to them. We have tried to document certain important parameters of resource management, and to assemble them in the form of a book (Table 9.1).

7. Traditional Honey Harvest

Honey harvest forms a very central frame for indigenous communities in many parts of India. Folklore, superstitions and legends related to honey make this traditional activity a unique and in some cases, a dangerous effort to harvest honey. Even though, thousands of years have passed since this activity was probably first invented and performed, till today, remnants of the strict traditions, reverence and associated rituals are followed in many parts of South India. The Kurumba and Irula communities in the Nilgiris actively hunt honey in a spectacular display of courage, faith and intrinsic knowledge. Kurumbas hunt for honey in the season from mid April onwards to mid July. It is a skill that is usually not hereditary and may involve only a few people from the village. Groups of honey hunters can range from 5-8 persons who then move around scouting for cliffs and trees.

7.1. Honey hunting Techniques

There are number of techniques used by the honey hunters to harvest honey. Nearly ten different techniques to harvest honey alone were found to be used by Adivasis with adaptations and improvisations, depending on the type of local material available, heights of nesting and skill.

Table 9.1: Traditional practices for NTFP harvest

Parameters NTFPs	Assessment	Process and Value Addition	Quality Control and Ancestral Domains UALTY
PUCCHA KAI	In foothills during months of Feb & March, tree flowers, climb up the slope and collect the kai	Without shaking the tree, climb, pluck and collect in our dhotis and placing it on sack for sun drying it at home. Fruit is not kept on soil floor as it contaminate it	Harvest as much as can be. Segregation after fruits get dry. This is because both mature and immature fruits are in a cluster. After drying, fruits shrink & only mature ones don't segregate. Collection only from their malai (hill)
PULI	If it flowers well in areas surrounding the village, then forest is assumed to have a lot	All matured and big ones fall, when shaking the tree like monkey. Small fruits are waste ones. Then dry and de-seed the fruits	Wait till a large number of fruits are matured nicely. Immature ones usually do not fall and there are no collection of it
NELLI	Have a look during forest forays. Forefathers followed the month of Feb and March and we do the same	Climb & shake the tree. <i>Cymbopogon</i> leaves are spread under the tree to avoid damage of fruits, when it falls. If fruits are at height, they use hook	Pluck both small and big fruits. Red fruits are left for animals to eat. All slight red fruits are collected
SIVAKAI	Have a look during forest forays in the months of Feb and March	Climbing is not possible. Hooks are used to pull the liana	There are male & female pods. Male pods are long size, whereas females are small. Male pods do not dry, so female pods are taken. 4-5 pods are male, rest are female. If male pod falls, then it breaks
HONEY	Mentioned Separately in Section 7		
EECHAM	Year around available. When grass is more (November), it is high	Collect, dry and pack it for sale	Mainly from respective mountains
KADUKAI	Taller trees will give more fruits 4-5 units, while medium trees will give lesser 1-3	Shake the tree and dry the fruits	Not much ancestral domains, as it is not very much important plant for adivasis

1. Rope & stick method mainly used for high rocks
2. Bamboo peg system used in high trees
3. Only rope for colonies located on trees
4. Rope ladder system
5. Cane looping system
6. Bamboo step ladder method
7. Conventional coir rope
8. Rope with platform
9. Basket rope ladder with bamboo steps
10. Forest vine only
11. Bamboo pole system

In each area, the forest vine is made depending on the habitat & flora available. According to several groups of hunters, the forest vine is till today, preferred over conventional ropes which are made out of coconut fibre or steel. Each Adivasi group may have different harvesting methods; Table 9.2 and Table 9.3 describe the various tools, techniques and superstitions followed by the three Adivasi groups of the Nilgiris.

Table 9.2: Tools and techniques used for honey harvesting by indigenous people in Nilgiri Biosphere Reserve (NBR)

Tribe	Description
Kurumba	Rope ladders are made from the fibre of the bark of Karasamaram (<i>Hardwickia binata</i>) or 'Manali kodi; bamboo sticks may be used as steps for the ladder; the other tools are coir rope, aruval (curved knife), tins, bamboo baskets and long split bamboo sticks with a sharpened end; smoker is mainly the protective gear used; some tribals apply honey or plant extract (suti kodi) to treat stings from AD.
Irula	Rope ladders are made out of the fibre of Panamaram (<i>Oroxylum indicum</i>) and Karasamaram (<i>Hardwickia binata</i>); rest of the tools is same as for Kurumbas; smoker is used so that the bees leave the comb.
Kattunaicken	They make a platform or attach a bamboo basket at the end of the rope from which they hang; the basket is also made of forest vines and is large enough to accommodate the honey hunter with his tools; Karasamaram (<i>Hardwickia binata</i>) is the most common fibre used to make ropes/baskets.

Table 9.3: Beliefs, superstitions and traditions involved in honey harvesting techniques practiced by indigenous people in Nilgiri Biosphere Reserve (NBR)

Tribe	Description
Kurumbas	A simple pooja (prayer) is done before honey hunting season; the brother-in-law factor exists; pieces from the first harvested comb are offered in 3 directions; marking of colonies with tobacco is done to prevent other people from harvesting; they believe that some cliffs are 'god's cliffs' from where no honey is harvested; they also pray at the graves of their ancestors prior to hunting
Irulas	Marking of colonies with tobacco is done to prevent other people from harvesting; spirits exist on some rocks from which no honey can be extracted; a simple prayer is done at the honey rock before the harvesting season
Kattunaickens	They have a prayer using items like coconut, incense, etc.; they do not cut the colonies with an iron knife as they believe that the bees will not make their combs in that place again; in some cases, the village priest decides who will go hunting, when and where

7.2. Traditional practices in honey harvesting

Pre harvesting starts when the harvesters first trek to the cliff or tree to check for honey availability. Some Adivasis and not all may carry a cigar rolled up with ganja and tobacco with them and smoke under the site. The smoke stuns the bees that fly away in stupor. This movement of the bees shows the number of bee layers present in the comb, the shape of the comb, bee movement and so on which helps them to prepare better for the hunt. They also come to know whether the comb is fresh/ whether it is ready to be harvested/ or whether it is already harvested.

A unique tradition is that the Honey hunter makes a mixture of 2-3 leaf types and some other ingredients and hides them under the site. They put them in a rock close to the hive. This leaf mixture excretes a smell which is obnoxious to the bees and agitates them if anyone tries to approach and harvest them. Therefore in a unique kind of ecological monitoring, it is only when the original person removes the leaves and starts his hunt that honey from that comb can be harvested. Though practices as this are not frequent, yet the Adivasis maintain that this process helped in protecting ancestral domains. Even otherwise, the Kurumbas after locating the site, put a mark - an indication to the other hunters that it is reserved by them. Nobody takes honey from already identified and thus marked hives, which are identified through 'Mantras' or chants.

A date is set for harvesting the honey. Twelve days before, the honey hunter goes on fast, praying and bathing regularly. He contacts his brother-in-law and

another trusted person and goes for hunting the comb. The wife or any other woman should not be seen, while going for honey hunting. At the hunting site, they pray to the lords using pan, areca, and agarbatti and also pray to their ancestors. This puja gives the people a belief that their ancestors will provide them stability in their pursuit as well as providing protection against evil spirits. On the day of harvesting, the hunter does not eat anything, least of all, anything non-vegetarian. He does not talk but all the time chanting mantras and invoking God to keep him safe.

They use ropes made of Karasi bark (*Hardwickia binata*), which is a tall tree and thus provides longer fibres. Besides, when the bark is being taken off, it is soapy on the inner part and this helps a lot when the fibre is to be twisted into the rope. Moreover strength of the fibre is legendary as it does not cut even against continuous scraping against rocks and sharp edges. This gives more strength against unforeseen damages. While he climbs the ladder, he sings 'bee songs' in praise of the bees. The brother-in-law holds the rope on top of the cliff when the man swings on the rope ladder, made of vines i.e. creepers from the forest. This ladder is prepared during the daytime and the honey is harvested in the evening (dusk). The main equipments used are a forest vine rope ladder, knife, smoking by leaves and bamboo baskets and sticks to collect the comb. In the case of smoker, they keep some leaves with the smoker, which stuns the bees and helps in avoiding stings. They cut the brood first and it falls off; only the brood with the young comb is eaten. The rest of the comb is collected in tins and squeezed out using hand. It is sometimes filtered through cloth. The first honey is tasted by the priest of the village. The rest is shared between all the villagers and partly sold to known people.

8. Conclusions

Working with Adivasi groups of the Nilgiris has been an eye opening experience. Not only has the vastness of indigenous knowledge come to our fore but also that we may still be unaware of the full extent of their wealth. It is true that the task of searching for correct sources of knowledge and documenting it in a relevant way has proven to be taxing because of the tacit nature of indigenous knowledge. Besides, incorporating assembled knowledge into a form that may be easily disseminated is an equally unenviable job. This is because of the complexity of analysis and disparity of knowledge systems. Indigenous knowledge has several inbuilt advantages and knowledge streams, which must be protected and preserved. Attempts by groups like Keystone Foundation and others will go a long way into preserving these knowledge banks and serve as a reference centre for future needs and aspirations of the society.

9. Bibliography

- Berkes F. 1999. Role and significance of 'tradition' in indigenous knowledge Focus on: Traditional ecological knowledge. *Indigenous Knowledge and Development Monitor*, Forest System and Tribal Livelihood – A study of eco-development scheme in Chinnar Wildlife Sanctuary. Kerala Forest Department.
- Charyulu, A.S. (Not dated) Dissemination of Indigenous Knowledge: a way to sustainable agriculture, MANAGE.
- Daniels, R.J.R.. 1992. The Nilgiri Biosphere Reserve and its role in Conserving India's biodiversity. *Current Science* 64: 706-708.
- Grenier, L. 1998: 'Working with Indigenous Knowledge', International Development Research Centre, Canada
- Hockings, P. 1989. *Blue Mountains - the ethnography and biogeography of a south Indian region*. Oxford University Press. New Delhi, India.
- Honey hunters and Beekeepers of Tamil Nadu. Keystone Foundation, Kotagiri, The Nilgiris, India. 2001.
- Kothari, B. 1995. From aural to written: the documentation of knowledge in Ecuador. *In: Indigenous Knowledge and Development Monitor*. Vol. 3(2): 9 – 13.
- Prabhakar, R. 1994. Resource Use, Culture and Ecological Change: A Case Study of the Nilgiri Hills of Southern India. Ph.d –Thesis. Centre for Ecological Science, Indian Institute Science, Bangalore, India. Unpublished.
- Singh, K.S., (Ed.) 1994. *People of India – National Series Volume III; The Scheduled Tribes*. Oxford University Press, New Delhi, India.
- Singh, K.S. (Ed.) (1997). *People of India – Tamil Nadu*,. Volume XL Part 1-3. Anthropological Survey of India.
- Venugopal, D. (Ed.). 2001. The Nilgiris. Nilgiri Documentation Centre, Ooty, The Nilgiris, India.
- www.scidev.net/dossiers/indigenous_knowledge/index.html