

DYNAMICS OF SUSTAINABLE LIVESTOCK AND NATURAL RESOURCES MANAGEMENT IN PACHAIMALAI HILLS, EASTERN GHATS, TAMIL NADU**Saravanakumar, K.**

Botany Wing -DDE, Annamalai University, Annamalai Nagar-608 002, Tamil Nadu, India.

E.mail: drsaravanak2007@gmail.com

ABSTRACT

Pachaimalais situated at the North West border of Thiruchirapalli District, the Pachaimalais (Green Hills) extend into the Salem District (Attur Pachaimalai). The traditional communities (Malayalis) derive both their socio-cultural and spiritual identity from land and forest for which a dynamic body of traditional knowledge were evolved to sustain and manage the natural resources. Looking to the importance of this dynamics, an attempt has been made to explore the knowledge and practices pertaining to livestock and natural resources management governed by traditional knowledge. To achieve the objective, the livestock owners from different ethnoculture from different villages of Pachaimalai hills, Tamilnadu were selected purposively. Various ethnographic tools, conventional methods like personal interview and participatory tools were adopted to explore and interpret the data. A range of locally available plant and other materials are widely used for curing many diseases and ailments of livestock. The indigenous biodiversity including local grasses, shrubs and trees are dynamically associated with local feeds, forages and are over all part of natural resources management of livestock owners. Still more preference is given to rear the local breeds of different livestock on account of their socio-cultural and spiritual compatibility resulting in conservation of biological diversity. The ecological diversities in which pasture lands are categorized in to private and common property and associated with customary rules and culture play a significant role in sustainable use, conservation and management of the natural resources.

Keywords: Natural resources management, Pachaimalai hills.**1. INTRODUCTION**

The indigenous knowledge (IK) tuned to local culture, social system, need based, tested over the centuries, dynamic in nature allow the local people to adapt to social and ecological attributes and play an important role for food security and overall enhancement of the sustainability of natural resources. In relation to natural resources management, various aspects of ethnoveterinary medicine, vegetation taxonomy, water and forestry resources, tenure arrangements, mobility patterns and breeding concepts have been described (Geetha *et al.*, 1996). The local knowledge pertaining to ethnoveterinary and natural resources deals with folk belief, culture, knowledge, skills and methods and practices pertaining to the healthcare of livestock. However, many IK systems and social institutions are currently at risk of extinction and threat because of rapidly changing natural environments and economic, political and cultural changes on a global scale. Practices can vanish, as they become inappropriate for new challenges or because they adapt too slowly.

2. MATERIALS AND METHODS

Pachaimalai hills are well known for its ethnocultural diversity and role of different tribal society based institutions in natural resources management. The livestock owners and practitioners of IK belong from tribal community and resource poor classes of villagers. The study area lies in the rainfed agroclimatic zones of Pachaimalai hills. These villages are rich in forest having bamboo, redwood, santalwood, teak and other local biodiversity used for medicine against both human and animals. Most of them have cows, bullocks, goat, poultry and pigs as a subsidiary source of income and major components of their farming system for sustainable livelihood. They adopt indigenous backyard gardening for obtaining necessary local vegetables, fruits, fodder, medicinal plants and to some extent food grains.

In keeping with the socio-cultural, political and ecology approach, the research applies historical and social analysis to understand dynamics of users (livestock owners) and managers of local ecosystems. During five trips of 10 months in 2010 living in selected villages. A survey questionnaire was applied to a conventional mixed sample and open-ended closed questions were asked.

Informants were chosen to include three different generations from the community. The outcome was an oral eyewitness account of a systematized portion of reality.

3. RESULTS AND DISCUSSION

The tribal people were mostly dependent on the indigenous crops ranging from cereals to pulses and oil seeds in combination with forest products. Diversification process adopted by local people is more dynamic than to sustain life. Local livestock owners still prefer and depend on the locally available indigenous plants for ethnoveterinary practices for curing different diseases and disorders of their animals like diarrhoea, maggot, puberty problem, ephemeral fever, wounds, insect bites, foot and mouth disease (FMD), worms infection, sores and blain and influenza. These locally available ethnoveterinary practices are more compatible to their sociocultural & economic values, based on years of experience, without side effects, cost effective. It not only important for animals but were also found to cure many diseases in human.

3.1. Biological and cultural diversity

The major factors responsible for conserving and using the local breeds of animals were found to be more or less similar (Galay *et al.*,

2010). The local breeds are compatible with the socio-cultural and biophysical conditions, useful in making variety of ethnic foods & cloths, providing manure & fuel, draught power, compatible to access natural resources, and helpful in developing knowledge & cultural network among livestock owners. Human cultures and languages are also vanishing rapidly and if a culture disappears, it irretrievably takes along a wealth of knowledge and the domestic animals and plants that had been the basis of its livestock and food production system.

3.2. Livestock rearing and natural resource management

Pastoralists' traditional ecological knowledge of the landscapes and the local livestock resources provides invaluable information resources for efficient livestock production involving nutrition, breeding and veterinary practices (Mathias, 2004). These factors include rapid deforestation by influential farmers to expand the agricultural land resulting in the loss of valuable local fodder biodiversity, nutritious indigenous perennial grasses replaced by less nutritious annual grasses and loss of grazing land has resulted in overgrazing of the more palatable grass species. Availability of crop residues of both local grains and pulses are declining.

Table 1. Particulars regarding the Botanical name, habit, plant parts used and their therapeutic uses of the species studied.

Sl.No	Botanical name	Habit	Plant parts used	Therapeutic uses
1.	<i>Abrus precatorius</i> L.	Climber	B L W Se	Anthrax, Insect bite, Retained placenta, Liver disorder
2.	<i>Achyranthes aspera</i> L.	Herb	L W I	Opacity of cornea Retained placenta Boil, ulcers, Wounds
3.	<i>Ailanthus excelsa</i> Roxb.	Tree	B L L B	Anorexia Body Lice Tympanites and fever Skin diseases
4.	<i>Alangium salvifolium</i> (Linn.f.) Wang	Tree	B	Oedema
5.	<i>Albizia lebbeck</i> (L.) Willd.	Tree	B	Fever
6.	<i>Aloe barbadensis</i> Mill.	Herb	F	Swellings, mastitis and wounds
7.	<i>Anacardium occidentale</i> L.	Tree	N	Infection of Housefly
8.	<i>Andrographis paniculata</i> (Burm.f.) Wall. ex Nees	Herb	L L	Ephemeral Fever Epilepsy
9.	<i>Argyrea nervosa</i> (Burm.f.) Boj	Climber	L L	Trypanosomiasis Wounds and skin diseases
10.	<i>Atalantia monophylla</i> (L.) DC.	Tree	L	Wounds

11.	<i>Azadirachta indica</i> A. Juss.	Tree	L	Suppuration
			L	Ulcer
12.	<i>Balanites aegyptiaca</i> (L.) Delile	Tree	L	General Opacity
			F	Expulsion of Placenta
13.	<i>Barringtonia acutangula</i> (L.) Gaertn.	Tree	St	Rheumatism
			L	Dysentery
14.	<i>Breynia retusa</i> (Dennst.) Alston	Shrub	L	Cough
			L	Maggots of Infect Sores
18.	<i>Cissus quadrangularis</i> L.	Climber	S	Bone fracture
			S	Sprains and swellings
19.	<i>Coccinia grandis</i> (L.) Voigt	Climber	F	Dizziness
			L	Dysentery
20.	<i>Crotalaria verrucosa</i> L.	Herb	L	Ephemeral Fever
			L	Insect bite
21.	<i>Curculigo orchioides</i> Gaertn.	Herb	R	Khuri disease
			T	Anthrax
			R	Impaction
			T	Eye Disorders
22.	<i>Curcuma longa</i> L.	Herb	Rh	Sprains, swellings and mastitis
23.	<i>Cynodon dactylon</i> (L.) Pers.	Herb	W	Diarrhea
			W	Snake bite
24.	<i>Dodonaea viscosa</i> (L.) Jacq.	Shrub	L	Bone fracture
25.	<i>Encostemma axillare</i> (Lam.) Raynal	Herb	R	Wound
			L	Ephemeral Fever
			L	Horn cancer
26.	<i>Euphorbia antiquorum</i> L.	Shrub	La	Bone fracture
27.	<i>Evolvulus alsinoides</i> (L.) L.	Herb	L	Boils, Blisters, ulcers and wounds
			L	Ephemeral Fever
28.	<i>Gmelina asiatica</i> L.	Tree	L	Epitaxis
			F	Insecticide
29.	<i>Gymnema sylvestre</i> (Retz.) R.Br.	Climber	L	Ephemeral fever
			L	Galactagogue
			L	Diarrhea
30.	<i>Justicia adhatoda</i> L.	Shrub	L	Panting
			L	Anthrax
			L	Epitaxis
31.	<i>Litsea glutinosa</i> (Lour.) Robins	Tree	L	Indigestion
32.	<i>Martynia annua</i> L.	Shrub	L	Boils, Blisters, ulcers and wounds
			L	Epilepsy
34.	<i>Ricinus communis</i> L.	Shrub	L	Swellings and wounds
			Oil	Gout
35.	<i>Senna auriculata</i> L.	Shrub	L	Boils, swellings and wounds
			L	Maggot infected sores
			Se	Skin diseases
36.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Tree	F	Foot and mouth Diseases
			F	Diarrhea
37.	<i>Tinospora cordifolia</i> (L.) Merr.	Climber	St	Poultry disease
			L	Bone fracture
38.	<i>Wrightia tinctoria</i> R.Br.	Tree	St	Anthrax
			St	Snake bite

3.3. Ecological diversities

The major preconditions are ethno-ecological variability of the pasturelands, utilization patterns, indigenous institutional framework and socio-economic equity. The pastoralists experiential wisdom on pasture land use and management showed the distinct ecological zones in accordance with the characteristics of the natural resources. The accessibility for the outside boundary of the villages is restricted. The local forests also provide the spiritual and cultural significance for ceremonies and are important for the local community, consequently resulting in sustainability of local biodiversity (Ponnusamy *et al.*, 2009).

3.4. Local feed resources

Tribal livestock owners use a wide variety of leaves and other locally available materials for the healthcare of livestock. For feeding the animals, they have identified many plants, trees, shrubs, and grasses, according to the season and choices and nature of animals (Karethikeyani and Janardhanan, 2003). During the drought period, additional wild shrubs, leaves and grasses are used to supplement dietary requirements and to sustain health. These resources are naturally found and conserved on common and barren or fallow land.

4. CONCLUSION

Livestock owners and communities usually pass on their indigenous knowledge of resource management to the next generation through oral transmission. Hence, the continuity and transmission of that knowledge and its associated culture from one generation to another and its more effective distillation into practical applications that are

socially and economically viable, are critical factors in survival of culture and dynamics of natural resources (Jain and Srivastava, 2003). The local people use and conserve locally available plants relevant to cure different diseases and disorders of animals. These locally available practices are cost effective and easy in operation for the first hand remedies. The local plants based feed materials are identified as an alternative to maintain the health of animals.

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