Traditional knowledge and use of Bioresources by the Marak community of Marak para, Sepahijala District, Tripura

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Abstract

The present research study explores the ethnobotanical use of medicinal plants as well as use of other bioresources by inhabitants of the Marak para specifically the Marak Community under Golaghati Block pioneered by the Him-Nature Learning Center Tripura Project in the Sepahijala wildlife sanctuary, Tripura.This survey report is a modest attempt to investigate traditional knowledge of the tribal community and their dependency on forest for bio resources for livelihood and also to determine some of the conservation practices through cultural and traditional activities. The methodology applied for the study included questionnaire method, Semi structured interview, Document verification, Field survey. Field survey was conducted among 33 families residing adjacent to the sanctuary. The study divulge the plant lore of indigenous cultures in their day to day life.

Introduction

Wild edible plants are the precious gift of our nature and most of the ethnic communities are strongly depends upon it for their day to day life (Reyes-Garcia, V., V. Vadez, T. Huanca, W. Leonard and D. Wilkie, 2005). The rich ethnic communities of Northeast India have immense traditional knowledge on the utilization of forest resources especially as food or medicine (Sundryal, M., R.C. Sundryal, E. Sharma and A.N. Porohit, 1998). Tripura is a landlocked hilly state having a traditional knowledge system for utilization of wild plants geographical area of 10,491 km is the second smallest is depleting very quickly. In Tripura 21 tribal communities are residing with multiple traditional practices using forest resources of which many studies have been performed.However no studies have been performed on the Marak community residing adjacent to the Sepahijala Wildlife Sanctuary particularly on the uses of bioresources who are highly dependent on the forest resources. The Marak community is the subtribe of Garo tribes and their original homeland were at Meghalaya (Garo Hills), Kamrup, Goal Para etc. places of Assam and Mymansing of Bangladesh. Migration of this tribe to Tripura took place during the 1st half of 19th Century. Their major migration took place after 1950. At present their population is 11,180 in Tripura. In the later period due to some community conflicts In Agartala, few families were shifted permanently to sanctuary area by government authority thus Marak para village was constituted. Ethnically they are the tribe of Tibeto-Burman linguistic family and under Mongoloid racial stock. Garos are Hindus by tradition. Their socio - religious culture are therefore most akin to Hindu faith and practices. The research study thus endeavour to find out the community dependency on those natural resources and traditional practices for biodiversity conservation is also perceived.

Aims and Objectives

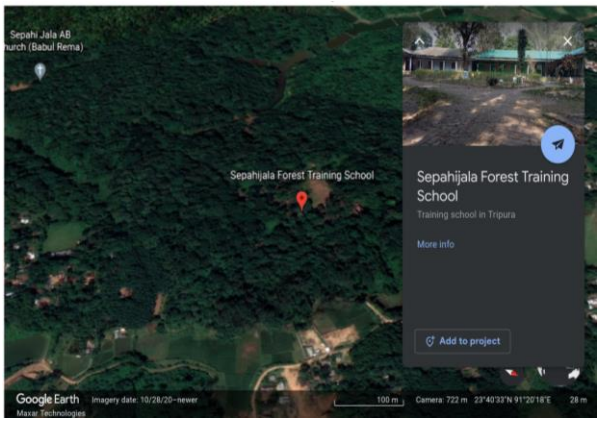
1.To study about the indigenous knowledge on medicinal plants used by the village peoples of Marak para, Sepahijala district Tripura.

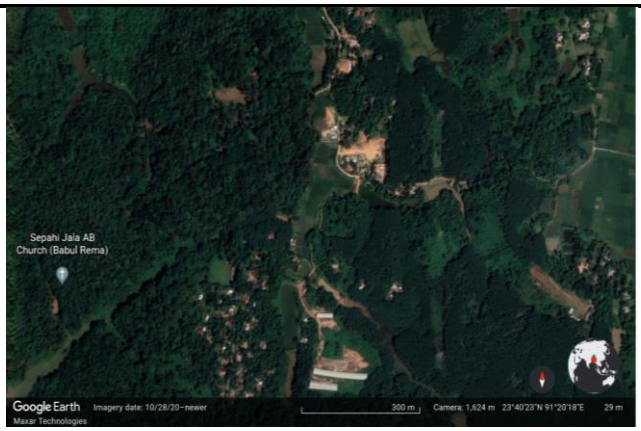
2.To study about the dependency on various Bioresources.

3.To analyse the traditional practices and community conservation interlinks.

Study area

The study was carried out in the Marakpara village adjacent to the Sepahijala wildlife sanctuary. From the month of February to August 2021 the survey process was done in different intervals to collect the required information.





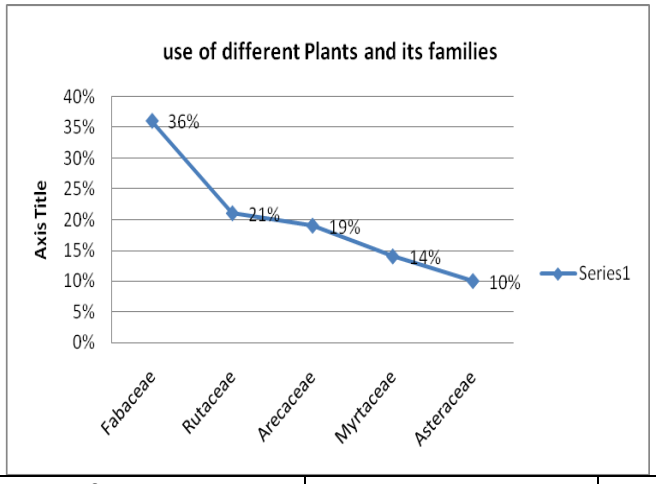
The village is located in $23^0$40`23”N and $91^0$20’18”E from the Nature Learning Centre Tripura with an average temperature of 10^0C-35^0C and rainfall of 2024mm average annually.

Materials and Method: For the investigation process questionnaire survey was done among 33 families to collect the socio-economic information. For the primary data collection regarding ethno botanical information semi structured interview was taken to the old people of the community and two local vaidyas. Other 67 females and 56 males were chosen for interview on various uses of Bio resources and conservation of natural resources by traditional and cultural practices. Graphical representations are used for evaluation of the result.

Result and discussion:

Table no.1: List of Bioresources used by local people

NTFPS	Local name (Scientific name)	Family	USES
Flower	I. Sonal(Cassia fistula)	Fabaceae	
	II. Bakul(Seshbania grandiflora)	Legumes	
	III. Arjun(Terminalia arjuna)	Combretaceae	Medicine
	IV. Jaba(Hibiscus rosasinensis)	Mallows	and used in
	V. Golab(Rosa multiflora)	Rosaceae	Puja.
	VI. Jasmin flower(Jasminium sp.)	Olives	
	VII. Lotus(Nelumbo nucifera)	Nelumbonaceae	
	VIII. Koraibi(Nerium indicum)	Apocynaceae	
	IX. Khomtata(Catharanthus roseus)	Dog Myrtaceae	
	X. Khomtore(Adenium obesum)	banes Apocynaceae	
	XI. Madabilata(Hiptage benghalensis)	Malpighiaceae	
	XII. Aparajita(Polygala crotalariodes)	Polygalaceae	
	XIII. Chandra mallika(Chrysanthemum indicum)	Asteraceae	
	XIV. Shewli(Nyctanthus arbortristis)	Oleaceae	
	XV. Gandaraj(Gardenia jasminoides)	Rubiaceae	
FRUITS	I. Banana(Musa paradisiae)		
	II. Mango(Mangifera indica)	Anacardiaceae	
	III. Pineapple(Ananas comosus)	Bromeliaceae	
	IV. Jackfruit(Artocarpus heterophyllus)	Moraceae	
	V. Lemon(Citrus limon)	Rutaceae	
	VI. Guava(Psidium guajava)	Myrtaceae	
	VII. Jamun(Syzygium cumini)	Myrtaceae	
	VIII. Jambura(Citrus grandis)	Rutaceae	
	IX. Sweet lemon(Citrus limetta)	Rutaceae	
	X. Orange(Citrus sinensis)	Rutaceae	
	XI. Litchi(Litchi chinensis)	Sapindaceae	Consume &
	XII. Coconut(Cocos nucifera)	Arecaceae	Supplementary
	XIII. Pomegranate(Punica grantum)	Punicaceae	food.
	XIV. Amra(Spondias dulcis)	Anacardiaceae	
	XV. Bel(Aegle marmelos)	Rutaceae	
	XVI. Papaya(Carica papaya)	Caricaeae	
	XVII. Indian jujube(Zizyphus mauritiana)	Rhamnaceae	
	VIII. Star fruit(Averrhoa carambola)	Oxalidaceae	
	XIX. Jalpai(Elaeocarpus serratus)	Elaeocarpaceae	
	XX. Toddy palm(Borassus flabellifer)	Arecaceae	
	XXI. Date palm(Phoenix dactylifera)	Arecaceae	
STEM	1.Sonal(Cassia fistula)	Fabaceae	
	2.Acacia(Acacia nilotica)	Fabaceae	
	3.Narical(Cocos nucifera)	Arecaceae	
	4.Tetul(Tamarindus indica)	Fabaceae	
	5.Bakul(Sesbania grandiflora)	Fabaceae	
	6.Arjun(Terminalia arjuna)	Combretaceae	
	7.Shegon(Tectona grandis)	Lamiaceae	Medicine
	8.Sal(Shorea robusta)	Dipterocarpaceae	
	9.Gamai(Gmelina arborea)	Lmiaceae	
	10.Kadam(Neolamarckia cadamba)	Rubiaceae	
	11.Karai(Albizia lebbeck)	Fabaceae	
	12.Chamol(Artocarpus chaplasha)	Moraceae	



LEAF	I. Tulsi(Ocimum tenuiflorum) II. Neem(Azadirachta indica) III. Aangon bolai(Calotropis gigantea) IV. Sezna(Moringa oleifera) V. Laou(Curcuma longa) VI. Lajjabati(Mimosa pudica) VII. Botam(Spilanthes paniculata) VIII. Nayantara(Catharanthus roseus) IX. Arhar(Cajanus cajan) X. Samsota(Centella asiatica) XI. Chirata(Swertia chirata)	Lamiaceae Meliaceae Apocyanaceae Moringaceae Zingiberaceae Fabaceae Asteraceae Apocyanaceae Fabaceae Apiaceae Gentianaceae	Medicine and Supplementary food.
ROOT/ TUBER	I. Ban halud(Curcuma domestica) II. Kathaloo/ Simul allo(Manihot esculanta) III. Pesta aloo(Dioscorea glabra) IV. Batama(Amophorphallus campanulatus) V. Panchamukhi(Colocasia sp.) VI. Haichung(Zingiber officinale)	Zingiberaceae Euphorbiaceae Dioscoreaceae Araceae Araceae Zingiberaceae	Food
AQUATIC ANIMALS	**Fish Species** 1.Catla(Catla catla) 2.Rohu(Labeo rohita) 3.Kalbasu(Labeo calbasu) 4.Bata(Labeo gonius) 5.Gonia(Labeo gonius) 6.Mrigal(Cirhinus mrigala) 7.Silver Carp(Hypophthamichthys molitrix) 8.Big head carp(Arstichthys nobilis) 9.Common carp(Cyprinus carpio communis) 10.Grass carp(Ctenopharyngodon idella) 11.Japani carp(Puntius japonicas) 12.Sar puti(Puntius sophore) 13.Tit puti(Puntius conchonius) 14.Kanchan puti(Puntius conchonius)	 Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae Cyprinidae	Food

Analysis: It was observed that Fabaceae is the highest used tree families for various uses of its different parts followed by Rutaceae 21%.Arecaceae and Myrtaceae are the other families which was oftenly used by the informants. Asteraceae is the another family which is also moderately used. However other many families are there which are also used for many purposes.

Preparation of local Beer by indigenous items

Marak community is used to one local drink which is prepared by different medicinal plants fermented in rice powder. It is healthy and provides energy and have medicinal properties also which have health benefits if it's taken in a moderate amount. The ingredients for this drink preparation Garlic Allium sativum, Mirong pora i.e. Rice powder, stem of Areca catechu, straw,Dry Chilli, Sugarcane , Komkha (Solanum trilobatum), Bipha Somanachi (Local Name) Rimban Dahan, Bima Somachi i.e. Allophylus cobbe and sepals of jackfruit i.e. Artocarpus heterophylus l am. This local ethnic preparation is a clue of ethno botanical uses of forest resources for traditional drink which differs in ingredients among different Tribal communities.

Fig. 1: Ingredients for the preparation of local beer by Marak Community

Use of Bamboo product and other NTFP

The Marak community is very much fond of bamboo products for daily use. Other than food value bamboo is used as tools for various purposes. Fishing tools, houses for animals, hunting purposes, kitchen utensils, furniture etc. are made of bamboos. Some animal NTFPs like animal Skin, Horns are used as animal instruments years back which are very popular in festival season, however these traditional practices are going to get vanished with modern inclusion of different instruments which are cost effective and easily available. The traditional ornaments are also made of bamboo, wood, horn, tooth, bone or shell of animals and few are made of coral beads, metal or brass.

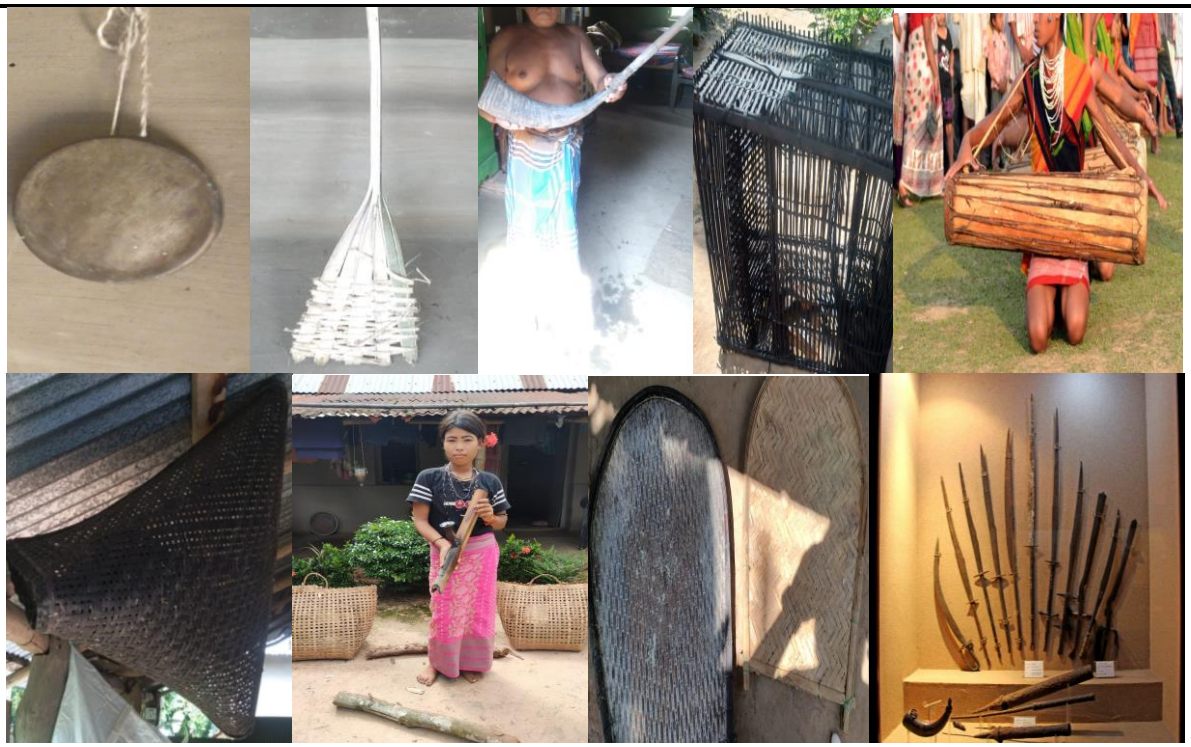


Fig.2: Use of Bamboo for various purposes and animal body parts

Interview with Local Vaidya: A scheduled interview was taken to the local Vaidya who has been serving the local people for many years. She is Urmila Marak a seventy-nine years old women who practicized ethnobotany with her homebased ingredients prepared by different medicinal plants to cure various ailments like Jaundice, stomach ache, skin diseases, fever, cold and cough, Small pox, chicken pox and surprisingly it worked amazingly.She is regarded as one of the trusted Vaidya for her effective ayurvedic medicines unfortunately her works didn't get focus and publicity except the local peoples awareness.89% of the informants are dependent upon her medicines till date which must get attention and such precious ethnobotanical knowledge must be preserved.

Fig.3: Urmila Marak with her traditional practices

- **Festivals of Marak Community:**

Though the Marak community is Hindu in its origin however the informants also follows some of the tribal customs and cultural festivals. Most of their festivals are associated with thanking the nature for the bounty. 72% of the informants practice Hindu all festivals. When new crop penetrates their granary, the whole community celebrate this **Wangala festival** with colourful dance, songs and music. They offer their gratitude to sun God for blessing the people with a rich harvest. **Haba Khamua** festival is celebrated during rice production. Here, "Haba" means paddy and "Khamua" means puja and offers thanks to Nature .Daghal puja and Ker puja are the other most precious festivals of the community. In this puja also Hens and other many animals are worshipped and pumpkins are cut to minimize the evil effects. It is thought that through these rituals the diseases are prevented to harm the society.Den'Bilsa is the an invocation to the mother crops. All participate in sweeping clean the village footpaths and prayers are offered at the boundary of the field. "Grengdik Ba'A is another ritual dance with rhythmic musical accompaniment. In all the mentioned rituals bamboo plays a significant role as various parts of bamboos are used to plase their God and Goddesses.

Fig: Marak community festivals

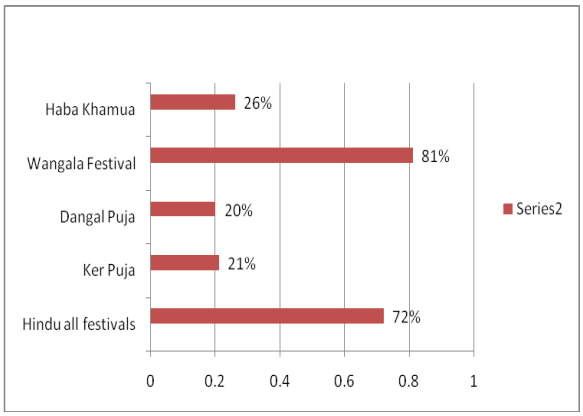


Fig.4: Cultural practices of the Marak Community

Conclusion

The study thus reveals that marak community is highly interlinked with the bio resources for their daily livelihood. Medicinal plants play an important role in the health care of Marak para inhabitants. They rely on medicinal plants to treat various ailments. It is found that among the all species Fabaceae is the highest family of the trees. Different festivals are celebrated by the Marak community which specifically relates nature and its resources which also signifies the way of conservation. It is also found that different bamboo species are of common use for household use. Some of the animal NTFPs are also used with significant purpose. The indigenous knowledge regarding the medicinal value of the plant species are extremely precious which must be conserved. A new perspective for the researchers lie here to go for further study for biochemical properties of these precious plant species.

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