

ETHNOBOTANICAL STUDY OF BORDUAR RESERVE FOREST OF KAMRUP DISTRICT USED BY TEA-GARDEN COMMUNITIES

Chunamoni Das

Dept. Of Botany, S.B.M.S College, Sualkuchi, PIN-781103
Kamrup, Assam, India

Introduction :- Plants are the basis of the life on earth and are central to peoples livelihood. Tribal people are the ecosystem people who live in harmony with the nature and maintain a close link between man and environment. The human use of plant as a source of medicine according to its needs. Some beneficial, some harmful and some toxic. The present study aim to enumerate the ethnomedicinal aspects of the tea-garden communities with an aim to add information to strengthen the resource on medicine multi-disciplinary study involving the relationship between plant and aboriginal people at a fair familiarity with flora of the vegetation of the Region.

North-eastern India offers an immerse scope for such ethnobotanical studies since it is mostly inhabited by numerous aboriginal tribes having rich folklore. Assam resides in remote areas and is totally dependent on plants for

their day today life. Not only for food, fodder, cloths, house making but their medical requisites are also fulfilled by the wild plant growing in vicinity. Plants are used in many ways including worshipping, Gods and Goddesses for Ethnobotany explore how plants are used for such things as food, shelter medicine, hunting, religious ceremonies.

The present paper has been undertaken with an attempt to collect and study of plant species of Borduar reserve forest of Kamrup district.

Ethnobotany deals with relationship between plants and human beings and by ethnobotanical approach to a flora we can expect to achieve certain other objectives (i) Plant involved in material culture of the people (ii) Plant associated with their ceremonies, beliefs etc. (iii) Local names of plants.

The study area of Borduar reserve forest of Kamrup district covering an area

of 3617.96 hector and extending from 25°43' to 26°51'N latitude and between 90°36' 92°12' longitude.

The Brahmaputra river bound it on north, Maghalaya state bound on South, Rani reserve forest bound on the east, Kulchi reserve forest bound on the west division of Borduar reserve forest of Kamrup district.

The total population of Borduar reserve of tea-garden communities is 550.

Method of Study :- The present work is based carefully planned intensive survey and field studies conducted during 2013 in Borduar Reserve Forest and the villages inhabited by tea-garden community of Kamrup district in Assam. The plant specimen as reported by the village people as medicinal and other plants are collected from different

experiment sites. The aim of this study is to know the plants use by the tea-garden and ex-tea garden communities of Borduar Reserve Forest of Kamrup district and to record the new and the less known uses of plant of them.

The survey was conducted in following forest Khirkijuli village, Borjar villages, Puranline village.

Result and Discussion :-

Plants used in Religious ceremonies and Festivals :- “Karam Puja” is the chief festival of tea-garden people. The festival is observed during August-Sept at last 5 days. Other common festivals are Tulsi Puja, Sarrai Parab also known as Garay paras on Kali Puja, Gram Puja, Phakua Puja, Cherul Puja, Durga Puja, Ganesh Puja etc. The plant specimen which used in Religious ceremonies are discuss in **Table –I**.

Table –I

Sl. No	Local Name	Botanical Name	Family	Nature	Uses
1	Tora	<i>Alpinia nigra</i>	<i>Zingiberaceae</i>	Wild	In the ritual of purification the eatables are offered on leaves with a belief that the child never suffer any physical disability
2	Tamul	<i>Areca Catechu</i>	<i>Arecaceae</i>	Wild	Areca nut and betel leaf are indispensable in almost all the religious ceremonies and social occasion
3	Marapat	<i>Corchorus capsularis</i>	<i>Tiliaceae</i>	Wild	The jute are used to garland the cattle in the charal puja
4	Haldi	<i>Curcuma longa</i>	<i>Zingiberaceae</i>	Wild	Used for ceremonial both on all social and religious occasions.
5	Bengana	<i>Solanum melongena</i>	Solanaceae	Wild	Fruits are used to make chat in spring festival.

The house where a birth takes place is considered untouchable for a few days. In local language such a period is known as chuwa. On the ninth day of the birth the house held observed sasthi and a stone is normally worshipped as a symbol of goddess. Both the laughter and cry of the new born is considered as the handiwork of the goddess. On the ninety day the family barber does the works like hair trimming and nail cutting as a part of chati-ritual. In case of nail cutting by women folk the ritual is known as Nokh-Tunga. The little bit of the several hairs of the new born are tied in a pieces of banana leaf and buried under nearly bamboo bush.

Last Rites :- In case of death due to snake-bite minor's death and death of a pregnant women the community record to burial. Usually the deceased in given a bath and covered with a white cloth with

the help of the relatives and neighbors the deceased is carried to the burial ground. On way Akhoi Mustard seed in thrown by uttering "Haribol". The fire candle is prepared by using either branches of Bel or Mango Tree, on way to the burial ground a branch of any spiny tree is fixed to the ground over which everyone has to jump over. This activity form a part of the ritual.

After cremation all the persons take bath and assemble in the house of the deceased. As a part of the purification rite assembled ones are sprinkled with tulusi water.

Edible Plants :- The forest supply a wide variety of wild food plants. Many of such plant not only yield fruits but also produce vegetables. The plant species which used tea-garden communities as a food plant are discuss

able -II

Sl. No	Local Name	Botanical Name	Family	Nature	Uses
1	Ata phol	<i>Ananas Squomosa</i>	<i>Annonaceae</i>	Wild	Ripe fruits are taken .
2	Kothal	<i>Artocarpus heterophyllus</i>	<i>Moraceae</i>	Wild	Fruits are taken .
3	Bel	<i>Aegle marmelos</i>	<i>Rutaceae</i>	Wild	Fruits are taken raw
4	Kordoi	<i>Averrhoa carambola</i>	<i>Averrhoaceae</i>	Wild	Used a vegetables
5	Bonorita Ada	<i>Amomum dealbatum</i>	<i>Zingiberaceae</i>	Wild	Rhizomes are used in curry and vegetables
7	Jati Bahn	<i>Bambusa tulda</i>	<i>Poaceae</i>	Wild	The young shoot in taken food.
8	Kamora	<i>Cucurbita pepo</i>	<i>Cucurbitaceae</i>	Cultivated	Used as vegetables
9	Ranalow	<i>Cucurbita maxima</i>	<i>Cucurbitaceae</i>	Cultivated	Used as vegetables
10		<i>Cucumis alivus</i>	<i>Cucurbitaceae</i>	Cultivated	Used as vegetables
11	Coffea	<i>Coffea arabice</i>	<i>Rubiaceae</i>	Cultivated	Used as refreshment drink.

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12	Tarmuge	<i>Citrolus vulgaris</i>	<i>Cucurbitaceae</i>	Cultivatad	Fruits are taken
13	Dania	<i>Coriandrum sativum</i>	<i>Cembelliferae</i>	Cultivated	Use as vegetables
14	Nemu	<i>Citrus limelta</i>	<i>Rutaceae</i>	Cultivated	Fruits are taken
15	Rabab tenga	<i>Citrus decumana</i>	<i>Rutaceae</i>	Wild	Fruits are taken
16	Omita	<i>Caria papaya</i>	<i>Rutaceae</i>	Wild	Ripe fruits are taken raw
17	Bonoria Kachu	<i>Colocasia antignarum</i>	<i>Araceae</i>	Wild	Leaf are eaten and taken
18	Tezpat	<i>Cinnamonum tamale</i>	<i>lauraceae</i>	Wild	Leaf are used in curry
19	Gajor	<i>Daucus carota</i>	<i>Apiaceae</i>	Cultivated	Fruits are used
20	Kath alu	<i>Dioscorea bulbefera</i>	<i>Dioscoreaceae</i>	Wild	Under taken roots and as used vegetables.
21	Gas alu	<i>Dioscorea heniltonii</i>	<i>Discoreaceae</i>	Wild	Root and used as vegetables
22	Outenga	<i>Dillenia indica</i>	<i>Dillenniaceae</i>	Wild	Used as vegetables
23	Urahi	<i>Dolichos lablab</i>	<i>Papilionaceae</i>	Wild	Used as vegetables
24	Helenchi	<i>Enhydra fluctuans</i>	<i>Asteraceae</i>	Wild	Leaves are used
25	Jam	<i>Eugenia jambolana</i>	<i>Myrtaceae</i>	Wild	Fruits are eaten .
26	Amlakhi	<i>Emblica officianates</i>	<i>Euphorbiaceae</i>	Wild	Fruits are eaten .
27	Gamari	<i>Gmelina arborea</i>	<i>Verbenaceae</i>	Wild	The flower are used as vegetables
28	Manimuni	<i>Hydrocotyle asiatica</i>	<i>Umbiliferaeae</i>	Wild	Leaves one and as vegetables
29	Vandi	<i>Hibicus esculentus</i>	<i>Malvaceae</i>	Cultivated	Fruits are used as vegetables
30	Kolmou	<i>Impomoea acquatica</i>	<i>Convolvulaceae</i>	Wild	Fruits are used as vegetables
31	Dron	<i>Leucus aspera</i>	<i>Laminaceae</i>	Wild	Leaves are used vegetables
32	Jatilow	<i>Lageveria vulgaris</i>	<i>Cucurbitaceae</i>	Cultivated	Fruit are used as vegetables
33	Vol	<i>L. cylindrical</i>	<i>Cucurbitaceae</i>	Wild	Fruits are taken as vegetables

34	Lesu	<i>Litchi sinensis</i>	<i>Sapindaceae</i>	Wild	Ripe fruits are eaten
35	Bhim kol	<i>Musa balsicane</i>	<i>Musaceae</i>	Wild	Ripe fruits are taken.
36	Sojna	<i>Moringa oleifera</i>	<i>Moringaceae</i>	Wild	The flower are used as vegetables
37	Poduna	<i>Mentha arvensis</i>	<i>Laminaceae</i>	Wild	Leaves are used as vegetables.
38	Tita kakiral	<i>Monordica charantia</i>	<i>Cucurbitaceae</i>	Wild	Fruits are eaten
39	Khejur	<i>Phoenix daetylifera</i>	<i>Aracaceae</i>	Wild	Ripe fruits are taken
40	Horpholi	<i>Phyllanthus acidus</i>	<i>Euphorbiaceae</i>	Wild	Fruits are taken raw
41	Maduriam	<i>Psidium guajava</i>	<i>Myrtaceae</i>	Wild	Fruits are taken .
42	Amra	<i>Terminalia tomentosa</i>	<i>Combrataceae</i>	Wild	Fruits are taken
43	Tetle	<i>Temarindus indica</i>	<i>Fabaceae</i>	Wild	Fruits are taken
44	Alu	<i>Solanum tubersum</i>	<i>Solenaceae</i>	Cultivated	Used as vegetables
45	Bengena	<i>S. melogera</i>	<i>Solenaceae</i>	Cultivated	Used as vegetables
46	Biliahi	<i>S. lycopersicum</i>	<i>Solenaceae</i>	Cultivated	Used as vegetables
47	Bogori	<i>Ziziphus jujube</i>	<i>Khamnaceae</i>	Wild	Fruit are eaten raw
48	Bhol	<i>Luffa cylindrical</i>	<i>Cucursitceae</i>	Wild	Fruit are cooked and taken as vegetables
49	Ananas	<i>Ananas comosus</i>	<i>Bromeliaceae</i>	Wild	Shoots and leaves are used as vegetables
50	Haldi	<i>Curcuma domestica</i>	<i>Zingiberaceae</i>	Wild	Rhizome are used in curry vegetables.

Medicinal Plant :- Ethnobotany for treatment of their ailments. Forest is the inter-relationship between people are very rich in wild medicinal plants. A plant of on area which they exist. Large list of medicinal plant used to tea-garden number of plant is used by the local people community are discuss **Table –III**

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Sl. No	Local Name	Botanical Name	Family	Nature	Uses
1	Latumoni Lata	<i>Abrus precatorius</i>	<i>Fabaceae</i>	Wild	Root used in diarrhea, dysentery
2	Bel	<i>Aegel marmelose</i>	<i>Rutaceae</i>		Unripe fruits are used in dysentery
3	Manimoni	<i>Centacella asiatica</i>	<i>Apiaceae</i>	Wild	Plant is used for women after child birth used in chronic dysentery as antiseptic in wounds
4	Kona simulu	<i>Commelina diffusa</i>	<i>Commelinaceae</i>	Wild	To stop bleeding of wounds/cuts
5	Dubari bon	<i>Cynodon dactylon</i>	<i>Poaceae</i>	Wild	Used in treatment of piles
6	Ghah bon	<i>Cyperus aromaticus</i>	<i>Cyperaceae</i>	Wild	Tubers are used in skin disease
7	Keya bon	<i>Cyperus rotundus</i>	<i>Cyperaceae</i>	Wild	Tubers paste is used a appetizer
8	Helonchi sak	<i>Enhydra fluctuans</i>	<i>Asteraceae</i>	Wild	Plant is used in gonorrhoea
9	Saru manimuni	<i>Hydrocotyle javanica</i>	<i>Apiaceae</i>	Wild	Used in amoebic dysentery
10	Kalmou	<i>Ipomea aquatica</i>	<i>Convolvaceae</i>	Wild	Leaf extras to centred bleeding during child birth
11	Pani khuture	<i>Ludwigia adscenelens</i>	<i>Onagraceae</i>	Wild	Used as antiseptic dysentery
12	Mati kaduri	<i>Alternanthera sessilis</i>	<i>Amaranthaceae</i>	Wild	Shoot and leaf used in dysentery
13	Lata guti	<i>Caesalpinia bondukea</i>	<i>Caesalpinaceae</i>	Wild	used in dysentery
14	Sambong	<i>Blumea balsamifera</i>	<i>Asteraceae</i>	Wild	Used in gastric problem
15	Pashtia	<i>Vitex negundo</i>	<i>Verbenaceae</i>	Wild	Used in tonsillitis
16	Sonaru	<i>Cassia fistule</i>	<i>Caesalpinaceae</i>	Wild	Used in indigestion
17	Podume	<i>Mentha arvensis</i>		Wild	Indigestion
18	Vote Ara	<i>Jatropha curcus</i>	<i>Euphorbiceae</i>	Wild	Used in piles
19	Karabi	<i>Nerium odorum</i>		Wild	Skin disease ulcer, Ring worms
20	Bogagire	<i>Ferulla asafoteda</i>	<i>Umbeliferae</i>	Wild	Diabetes, Heart problems
22	Dhania	<i>Coriandrum salivum</i>	<i>Umbeliferae</i>	Wild	Swelling, Diarrhea
23	Omita	<i>Carica papaya</i>	<i>Anaemia jaundice</i>	Wild	Muscle pain.
24	Tioh	<i>Cucumis salivus</i>			Dry skin

25	Tulsi	<i>Ocimum sanctum</i>	<i>Haminaceae</i>	Wild	King worm whooping cough
26	Ara gas	<i>Ricinus communis</i>	<i>Euphorbiaceae</i>	Wild	Dry skin, Eye disease
27	Tengeshi	<i>Onalis corniculate</i>	<i>Oxalidaceae</i>	Wild	Dysentery, blood dysentery ad liver disorder.
28	Podum Phol	<i>Nelumbo nucifera</i>	<i>Nelumbonaceae</i>	Wild	Used for cardiac treatment
29	Punijalokia	<i>Ludwigia Octavalvis</i>	<i>Onagraceae</i>	Wild	Used in intestine worm, used in dysentery and fever.
30	Tora	<i>Alpinia nigra</i>	<i>Zingiberaceae</i>	Wild	Rhizome is used vermifuge to children.
31	Boch	<i>Acorus calamius</i>	<i>Araceae</i>	Wild	Used in this treatment of cough, asthma of the children.
32	Thekra	<i>Garcinia Pedunculata</i>	<i>Guttiferaceae</i>	Wild	Blood dysentery
33	Chirate tite	<i>Swertia chirate</i>	<i>Gentianaceae</i>	Wild	Fever, indigestion, skin discae.
34	Pan	<i>Piper betel</i>	<i>Piperaceae</i>	Wild	leaf is used in headache
35	Joba phol	<i>Hibiscus rosa sinensis</i>	<i>Mahvaceae</i>	Wild	Used in heart problem

Socia Religious aspects :- There are certain plant associated with their religious and social customs and belief and thus help in maintaining the cultural aspect of the society. In the present category all plant involved directly or indirectly in religious rituals and belief, social customs and festivals have been included. The most significant in this connection that certain plant viz ocimum sanctum,

Areca-catechu, phrymum pubinerve and piper betel are indispensable in all most all the religious and social function.

Construction :- The construction pattern is very simple and it is rectangular shape. Building material required are first collected. The posts are selected from durable timbers on bamboo. A list of plants used in house building by the tea-garden communities are given below **Table –IV**

Sl. No	Local Name	Botanical Name	Family	Nature	Uses
1	Areca Catechu	Areca Catechu	<i>Arecaceae</i>	Wild	Stems are used for temporally house posts
2	Kathal	<i>Artocarpus heterophyllus</i>	<i>Moraceae</i>	Wild	Posts, beams, planks etc.
3	Gargane	<i>Dipterocarpus macrocarpus</i>	<i>Dipterocarpaceae</i>	Wild	Posts ,beams, planks
4	Nahal	<i>Mesua ferrea</i>	<i>Calophyllaceae</i>	Wild	Posts ,beam ,planks
5	Tita sapa	<i>Micbelia champoca</i>	<i>Magnoliaceae</i>	Wild	Posts, planks, door, panels, window.

6	Sal	<i>Shorea robusta</i>	<i>Dipterocarpaceae</i>	Wild	Posts, beams, planks
7	Poma	<i>Cedrela toona</i>	<i>Meliaceae</i>	Wild	Posts beams, planks

Miscellaneous uses of Plants :-

Sl. No	Local Name	Botanical Name	Family	Nature	Uses
1	Kathal	<i>Artocarpus heterophyllus</i>	<i>Moraceae</i>	Wild	Latex of fruit axis is used strengthen rope
2	Alu kher	<i>Imperata cylindrical</i>	<i>Poaceae</i>	Wild	Leaves used as jaru for clean room.
3	Bhol	<i>Luffa cylindrica</i>	<i>Cucurbitaceae</i>	Wild	Fruits used as bath brush
4	Jati Bahn	<i>Bambosa tulde</i>	<i>Poaceae</i>	Wild	Used as sleeping and drying.
5	Nirikal	<i>Cocos nucifera</i>	<i>Areceae</i>	Wild	Leaves used to clean room of court yard.

Conservation :- Early inhabitants of forests the forest as a valuable resource and used for their livelihood to their best understand and without detriment to that resource also protected the forest through severed beliefs . Inspire of the protection extended through religious beliefs and practices, the forest in many parts of the area inhabited by the tea-garden community of Kamrup district suffer considerable interference and dame due to obvious reasons.

Conclusion :- This research will be of help the tea-garden communities as well as others to know about the ethno botany of these less known people. An intensive study was therefore, felt necessary to know about the immerse wealth of the different plant species available as well as plant species used by the tea-garden community in the Kamrup district. They use not only the edible ones but also, numerous medicinal

and otherwise economic herbs for curing different diseases, common to the locality.

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