



ISSN 2278-4136
ISSN 2349-8234
JPP 2013; 2 (4): 164-174
© 2013 AkiNik Publications
Received: 19-9-2013
Accepted: 10-10-2013

Shaikh Bokhtear Uddin

*Department of Botany, University of
Chittagong, Chittagong 4331, Bangladesh
Email: roben68@gmail.com*

Reshma Sultana Ratna

*Department of Botany, University of
Chittagong, Chittagong 4331, Bangladesh
Email: resuratan@yahoo.com*

Mohammad Omar Faruque

*Department of Botany, University of
Chittagong, Chittagong 4331, Bangladesh
Email: meet.omar@yahoo.com*

Ethnobotanical Study on Medicinal Plants of Rakhaing Indigenous Community of Cox's Bazar District of Bangladesh

Shaikh Bokhtear Uddin, Reshma Sultana Ratna, Mohammad Omar Faruque

ABSTRACT

The Rakhaing indigenous community living in the Cox's Bazar district of Bangladesh has long been an admiration of utilizes plants around them in various purpose and they depend on their surrounding vegetation for various purposes in their daily life. An ethnobotanical survey is carried out on the utilization of medicinal plants by Rakhaing community. The information has been documented by interviewing traditional herbalists, various elderly men and women following different ethnobotanical methods. Total 82 plant species in 77 genera under 51 families with their short botanical description, local (Rakhaing) names, medicinal use, mode of preparation and application have been documented. All the voucher specimens have been collected during documentation and preserved at the herbarium of Chittagong University (CTGUH).

Keywords: Rakhaing community, Medicinal plants, Herbal treatments, Bangladesh.

1. Introduction

The surrounding environment directly and indirectly influences the human life and culture. "Many living groups of people, having diversified ethnic culture, history of rituals and performance, who are more or less isolated from modern world and are closely associated with their ambient vegetation is the emporia of ethnobotanical research" [17]. People depend on plants around them for many purposes like; food, shelter, dyes, cosmetics, clothing, medicine etc. They classify the plants on the basis of their use, store the information and knowledge of plant use and these information and knowledge passed from one generation to another. Rakhaing community has its own traditional system of herbal treatment for their primary healthcare and is still continuing. But lack of consciousness, mismanagement and without proper documentation these knowledge may be disappeared and many ethnic societies are rapidly being assimilated into modern societies and the treasure of their knowledge is disappearing rapidly. Ethnobotany as an interdisciplinary science is, therefore, in a position to contribute to development. The wealth of traditional knowledge of the indigenous people concerning their natural systems and environment, their knowledge on utilization and maintenance of plant resources on a long-term basis without damaging or destroying their habitats. Ethnobotanical data can be utilized by economic botanists to discover new plant resources, to provide fresh ideas for environment planners, as a tool for basic selection of plant species for development of drugs by pharmacologists, phytochemists and clinicians, as a new source of history through the study of plant names by linguists, as a source for locating new germplasm for agriculturists, etc. Some works on ethnobotany performed only in last decades of 20th century. Kadir in 1990 worked on medicinal plant of Bangladesh and their conservation strategy. Several work also done by other workers on this field [2, 3, 8, 9, 12, 13, 24, 25, 29]. The most recent work in this field has done by some workers [5, 6, 7, 10, 15, 16, 19, 20, 21, 26, 27, 28].

Correspondence:

Shaikh Bokhtear Uddin

*Department of Botany, University of
Chittagong, Chittagong 4331,
Bangladesh
Email: roben68@gmail.com*

Most of the Rakhaing live in Cox's Bazar. They migrated here from Arakan because of some political violence and choose Cox's Bazar for their residence because; from the geographical point of view, Cox's Bazar is the closest neighbour of Arakan so they could easily communicate with their country and it was a safe harbour for them^[1]. Then few of them further migrated to Bandarban and Patuakhali districts of Bangladesh. Now it is one of the smallest indigenous groups in Bangladesh^[23].

2. Methods

The success of ethnobotanical documentation depends on the cooperative relationship between the researcher and local informants. It is very important to locate knowledgeable informants for the study of ethnobotany^[11, 22]. Techniques are tools, and the choice of using one over the other depends on the aims and theoretical approach of the study, field conditions, and expertise of the researcher^[4].

Documentation has been made by taking random interviews of the herbalists, elderly men and women. In field interview technique, the informants accompany with the author and data has been collected in the field. To obtain medicinal plant use information, plant interview technique has been used in the maximum cases, because the informants are sometime too busy or don't think himself fit to accompany the author in the field. Fresh plant samples have been collected and brought to the informants. The informants identified some of the plants and describe their uses. This method is less time consuming than field interviews and the plant interview allows more informants to be included in a given period of time^[4]. By adopting open-ended and semi-structured question technique interviews have been taken and noted and recorded with a digital voice recorder. The reliability of information on each plant was confirmed through repeated interviews.

All voucher specimens have been collected during documentation and preserved in the Chittagong University Herbarium (CTGUH). The specimens have been identified consulting with the experts, through several herbarium studies by comparing herbarium specimens and studying several available literatures. The description and the current nomenclature have been compared with recent book- "Dictionary of Plant Names of Bangladesh"^[18].

3. Enumeration

The species have been arranged alphabetically following their botanical name and the family in the bracket and voucher number has attributed at the end of each species name. Bangla and Rakhaing name, short botanical description with the status of the species, traditional uses and mode of administration have been presented respectively.

Abroma augusta (L.) L.f. (Sterculiaceae) rr-30.

Local name: Ulothkombal

Rakhaing name: Tongkangja

Shrub. Leaves of lower portion are big with long petiole, leaves cordate, leaf tip acute, leaves of upper portion are as like (*Adhatoda vasica*). Flower violet and look like butterfly. Fruit pentangle, hollow, hairy, green when fresh, gray or brown when ripe. Rare in hilly area.

Using information: Boiled leaf extract is taken during taking meal to control hiccup.

Acanthus ilicifolius L. (Acanthaceae) rr-17.

Local name: Hargoza

Rakhaing name: Shuvam

Herbs. Leaves are simple, opposite and decussate; stipules are lacking. Flowers are bisexual, zygomorphic, brightly colored bracts. Fruit is commonly an elastically dehiscent loculicidal capsule. Frequent around their house.

Using information: Extract prepared from root is taken three tea spoonfuls twice daily for the treatment of high blood pressure.

Acorus calamus L. 1753. (Araceae) rr-32.

Local name: Bach

Rakhaing name: Lunghin

Semi aquatic aromatic herb with creeping root stocks. Leaves simple, sessile, and linear with wavy margins. Flowers in spadix. Fruits berries. Seeds embedded in mucilage. Rare in marshy area.

Using information: Extract prepared from root and leaf, is taken two tea spoonful twice daily until cured, for the treatment of gastritis. Extract prepared from leaves is taken two to three tea spoonfuls daily and applied in the abdomen until cured for the treatment of splenomegaly in children and vomiting.

Aegle marmelos (L.) Correa (Rutaceae) rr-65.

Local name: Bel

Rakhaing name: Bel

A medium sized thorny tree. Leaves trifoliate, ovate, subcrenulate, acute, and glabrous. Flowers white, in axillary panicles. Fruit a large globose berry. Seeds embedded in fleshy pulp. Occasional in around the house.

Using information: Juice prepared from fruit is taken one glass instantly to treat vomiting.

Albizia saman (Jacq.) Merr. (Mimosaceae) rr-3.

Local name: Rain tree.

Rakhaing name: Kammorsung

A large evergreen tree. Leaflets obliquely rhomboid, ovate-oblong. Flowers heads pink. Pods oblong. Common in both marginal and slope of hill.

Using information: Leaves are boiled in water with sugar and the extract put in direct sunlight for an hour. The extract is taken one glass daily for three to four days to treat insomnia. Fruit infuse in water and used as shampoo.

Allium sativum L. (Liliaceae) rr-1.

Local name: Rasun

Rakhaing name: Kasamphru

Annual bulbous herb. Bulb scaly grown underground. Leaves fleshy, simple, radical, cylindrical and fistula, leaf base sheathing. Flowers white in cymose umbels. Capsules small seeds black. Cultivated in marginal land.

Using information: Paste prepared from leaf is mixed with cow or goat's milk, slightly heated in a steel plate and taken one tea spoonful twice daily for four to five days to treat cough. Garlic is taken with hot rice to treat high blood pressure. Paste prepared from bulb is applied to the affected areas for three months to treat leprosy.

Aloe vera L. Burm.f (Aloeaceae) rr-44.

Local name: Ghritokumari

Rakhaing name: Kala daru

A stoloniferous herb. Leaves uniform, succulent, spinous-dentate. Flowers scarlet or yellowish-green, in terminal racemes. Capsules loculicidal. Cultivated in their house.

Using information: Paste prepared from leaf is used for skin care.

Alstonia scholaris (L.) R. Br. (Apocynaceae) rr-25.

Local name: Chatim

Rakhaing name: Silema

A large evergreen tree. Stem with milky juice. Branched

whorled, lenticellate. Leaves simple, seven in a whorl, coriaceous, elliptic or oblanceolate, obtuse at apex, pale beneath. Flowers yellowish-white, in umbellate cymes, sweet scented. Fruits follicles in clusterous. Seeds oblong, with tuft of hairs at each end. Occasional in Hilly areas.

Using information: Latex of leaf is applied (externally) to the lip for three to five days to cure from lip blister.

Amaranthus spinosus L. (Amaranthaceae). rr-55.

Local name: Katamarissha

Rakhaing name: Chuka hunkoni

Erect spinescent herbs. Leaves alternate, simple, lanceolate. Flowers in axillary and terminal dense spikes, greenish- white. Fruits capsules. Seeds dark brown. Common in beside the road.

Using information: Extract prepared from root is taken two to three tea spoonfuls twice daily until cured from diarrhoea (specially in pregnant woman).

Ananas comosus (L.) Merr. (Bromeliaceae) rr-66

Local name: Anaras

Rakhaing name: Nendasa

Perennial herb. Leaves long, with prickly margins, apex spiny. Inflorescence terminal, capitate. Flowers sessile. Fruit syncarpia formed of the coalescence of thickened rachis, bracts and ovaries. Common in hilly area.

Using information: Warmed leaf is applied for the treatment of headache and extract of leaf taken single cup twice daily until cured for burning sensation and general weakness. Juice prepared from pineapple is mixed with honey and taken three to four tea spoonfuls twice or thrice daily until cured in burning sensation, general weakness, headache and insomnia.

Areca catechu L.(Arecaceae) rr-67.

Local name: Supari

Rakhaing name: kuachibaowng

Solitary or small clump-forming palms. Stem annulate, slender, smooth. Leaves pinnate, pinnae mostly narrow. Inflorescence much branched, borne at the base of the crown shaft, female flowers in triads at the base of the rachillae, male flowers small, variously arranged on the upper part of rachillae. Fruit ovoid or oblong, exocarp fleshy, fibrous. Seeds with truncate base, embryo basilar. Common in around their house.

Using information: Extract prepared from root is taken two tea spoonfuls twice daily to treat diarrhoea.

Artocarpus heterophyllus Lam. (Moraceae) rr-68

Local name: Kathal

Rakhaing name: Panerum

An evergreen tree. Leaves simple, obovate-oblong, coriaceous. Inflorescence cauliflorous. Flowers solitary, usually in auxiliary receptacles. Fruit a syncarp, tubercled, oblong or cylindric. Common in hilly area.

Using information: Extract prepared from root is taken twice daily as much as patient can until cured for the treatment of piles.

Asparagus racemosus Willd. (Liliaceae) rr-62.

Local name: Sotamuli

Rakhaing name: Sattirsora

Scandent, spinous shrubs. Spines sub-erect. Cladodes 2-7 together, slightly compressed. Flowers in racemes, small white. Fruits berries, globose. Rare in beside the house.

Using information: Paste of root is taken two to three tea spoonfuls once daily in pregnancy complicacy and leucorrhoea until cured.

Azadirachta indica A. Juss. (Meliaceae) rr-26.

Local name: Nim

Rakhaing name: Tamma

A large tree. Leaves imparipinnate. Leaflets ovate-lanceolate, asymmetrical, serrate. Flowers white, in axillary racemose panicles. Drupes ovoid-oblong, one seeded, seed pendulous. Frequent in around the house.

Using information: Extract of root is taken half cup twice/thrice daily until cured for the treatment of chicken pox, high blood pressure and gastritis. Boiled leaf juice mixed with camphor is taken one to two tea spoonfuls instantly for the treatment of flatulence and vomiting due to warm weather. Extract prepared from leaf is taken two tea spoonfuls twice or thrice daily until cured in general weakness, gastritis, jaundice and malaria.

Bacopa monnieri (L.) Pennell (Scrophulariaceae) rr-49.

Local name: Brammishak

Rakhaing name: Pow-mow-dae

Herbs, erect or creeping. Leaves opposite. Flowers solitary, axillary or in terminal racemes. Bracteoles 1 or 2 or absent. Sepals (4 or) 5, entirely free, imbricate, upper 1 largest, lower 2 next large, lateral 2 innermost and narrowest. Corolla tube tubular; limb patent, conspicuously or obscurely 2-lipped; lower lip 3-lobed; upper lip 2-lobed. Stamens 4, didynamous or equal in length, very rarely 5; anther locules parallel, free. Stigma dilated, capitate or 2-lobed. Capsule ovoid or globose, 2-grooved, 4-valved. Seeds numerous, minute. Common in beside of the road.

Using information: Paste prepared from the whole plant is mixed with coconut oil and applied to boils until cured.

Boerhavia repens L. (Nyctaginaceae) rr-20.

Local name: Punarnava

Rakhaing name: Perunoa

Herbs, shrubs, trees, or sometimes spiny vines. Leaves opposite, alternate, or whorled. Stipules absent, petiole usually present, well defined, leaf blade simple, herbaceous or slightly fleshy, margin entire. Inflorescences mostly terminal, less often axillary, of cymes, umbels, or verticils. Flowers bisexual, rarely unisexual or polygamous, actinomorphic, Fruit an achenelike anthocarp enclosed by persistent perianth, ribbed or winged, often glandular. Seed 1, endosperm present, embryo straight or curved. Frequent in marginal land.

Using information: Juice prepared from boiled leaf is taken as much as patient can, twice daily until cured for the treatment of swelling in hand and leg and splenomegaly in children.

Butea monosperma (Lam.) Kuntze. (Fabaceae) rr-27.

Local name: Polash

Rakhaing name: Todium

Medium sized trees. Stem with irregular branching. Leaves pinnately trifoliolate, leaflets broadly obovate, truncate-mucronate at apex. Flowers orange-scarlet, in panicles. Fruits pod, long, flat, pubescent. Seeds oval, compressed, dark brown. Occasional in Hilly area.

Using information: The burnt fruit is applied to the affected area in toothache.

Cajanus cajan (L.) Millsp. (Fabaceae) rr-9.

Local name: Arhar

Rakhaing name: Hayanko

An erect shrub. Leaves 3- foliate. Leaflets ovate, acute, slightly pubescent. Flowers yellow in racemes. Pods torulose, tomentose. Cultivated in slope of hills and road sides.

Using information: Extract prepared from leaf is taken three to four tea spoonfuls twice or thrice daily until cured from gout. Leaf extract is taken as much as patient can twice daily for 21 days to treat jaundice. In addition taking of oil, salt and turmeric is prohibited. Sleeping at day time is also prohibited. Ash prepared from whole plant is mixed with cold water and salt and this juice is taken two tea spoonfuls twice daily until cured in vomiting and stomachache.

***Calotropis gigantea* (L.) R. Br. (Asclepiadaceae) rr-29.**

Local name: Akunda

Rakhaing name: Muhurong

An erect, bushy shrub. Leaves simple, opposite-decussate, obovate. Flowers purplish-white, in umbellate cymes. Follicles ovoid. Seeds ovate, flat, comose at apex. Frequent in around the house.

Using information: Paste prepared from leaves is mixed with salt and used for inhalation in catarrh. Warm leaves is applied to externally twice daily until cured in rheumatic pain. Latex of this plant is applied in the toothache. Warmed leaf is applied to the affected area for the treatment of gout.

***Carica papaya* L. (Caricaceae) rr-69**

Local name: Pepe

Rakhaing name: Ptega

Small tree. Leaves terminally clustered, digitately lobed. Male flower cream coloured, in pendent racemes, female flowers solitary or in a few-flowered corymbs, Berry fleshy. Common in marginal land.

Using information: Extract prepared from root is taken three to four tea spoonfuls twice daily until cured for the treatment of general weakness, headache and insomnia.

***Cassia fistula* L. (Caesalpinaceae) rr-53.**

Local name: Sonalu

Rakhaing name: Mumgbum

A small tree. Leaves pinnate; leaflets glabrous, ovate, acute. Flowers yellow, in axillary racemes. Pods long, cylindrical. Common in marginal land.

Using information: Extract of leaves is taken two to three tea spoonfuls twice to thrice daily until cured for the treatment of diarrhoea. Extract prepared from boiled leaf is taken two to three tea spoonfuls twice daily for the treatment of dysentery. Extract prepared from root is taken two tea spoonfuls twice daily until cured and also applied to the affected area for the treatment of piles.

***Catharanthus roseus* (L.) G. Don (Apocynaceae) rr-18.**

Local name: Noyontara

Rakhaing name: Sagusonga

Herbs. Stem smooth deep green. Leaves opposite, simple flowers in axillary and terminal cymes, tubular, deep rosy; fruits follicles, slender; seeds black. Ornamental plant in garden.

Using information: Whole plant is boiled in water and the extracts reduced upto 33%, and add camphor, this extract is taken one spoonful twice daily to control diabetes. Extract prepared from leaves is taken as much as patient can to control diabetes. Extract of leaves is mixed with camphor is taken one tea spoonful twice daily for the treatment of jaundice and diabetes.

***Centella asiatica* (L.) Urban (Apiaceae) rr-19.**

Local name: Tankuni

Rakhaing name: Mrukhu

A prostate herb, rooting at nodes. Leaves simple, orbicular, and crenate-dentate. Flowers reddish-white, in axillary umbels. Cremocarps ribbed. Frequent in marginal land.

Using information: Juice prepared from leaf is taken one cup twice daily for three to five days and in addition leaves are taken as

vegetables during fever. Paste prepared from leaf is taken half cup twice daily in fever until cured and leaf is taken directly to treat pyorrhoea. Extract prepared from leaf is taken one cup twice or thrice daily for two months to treat impotence. Juice prepared from boiled leaf is taken one glass daily (in empty stomach) to treat gastritis. Green leaf paste with sugar is taken one glass daily until cured from jaundice.

***Cissus quadrangularis* L. (Vitaceae) rr-22.**

Local name: Harjora

Rakhaing name: Zejonglasa

A fleshy, tendrilar climber. Stems 4-angled. Leaves simple, entire or lobed, ovate or reniform. Flowers pale brown, in short peduncled umbellate cymes. Berries red. Cultivated in around the house.

Using information: Paste prepared from leaf is applied to affected areas to treat fracture.

***Citrus aurantifolia* (Christm.) Swingle (Rutaceae) rr-58.**

Local name: Kagogi lebu

Rakhaing name: Kowazi

A small tree. Leaves alternate, 1-foliolate; petioles often winged. Flowers white, in auxiliary fascicled cymes. Hesperidium globose, yellow. Frequent in marginal land.

Using information: Juice prepared from fruit is applied to affected area until cured for the treatment of baldness and eczema.

***Clerodendrum viscosum* Vent. (Verbenaceae) rr-50.**

Local name: Vhate

Rakhaing name: Unknown

A large shrubs; branches 4- angled. Leaves simple, ovate or orbicular, serrate, tomentose beneath. Flowers white, in terminal, sub-corymbose panicles. Drupes bluish- black. Common in slope of hill.

Using information: Ash prepared from leaf is mixed with coconut oil and applied to swelling leg and blister twice daily until cured.

***Clitoria tinctoria* L. (Fabaceae) rr-46.**

Local name: Oporajita

Rakhaing name: Aowmabeowabong

Plants are herbs, vines, shrubs, trees, and lianas. Leaves are stipulate, nearly always alternate, and range from bipinnately or palmately compound to simple. Flowers are usually bisexual, actinomorphic to zygomorphic. Fruit is usually a legume. Seed often have a hard coat with hourglass-shaped cells, and sometimes bear a u-shaped line called a pleurogram. Ornamental plant around the house.

Using information: Extract prepared from flower with salt, is taken two tea spoonfuls twice or thrice daily until cured from cough.

***Coccinia grandis* (L.) Voigt (Cucurbitaceae) rr-52.**

Local name: Telakucha

Rakhaing name: Kamui-apang

Climbing herbaceous annuals. Stems and coiled tendrils. The leaves are alternate and usually palmately 5-lobed or divided. Stipules are absent. The flowers are actinomorphic and nearly always unisexual. The perianth has a short to prolonged epigynous zone that bears a calyx of 3-6 segments or lobes and 3-6 petals or more frequently a 3-6-lobed sympetalous corolla. The fruit is a type of berry called a pepo. Frequent in hilly areas.

Using information: Extract of whole plant is taken single cup

twice daily for controlling diabetes.

Cocos nucifera L. (Arecaceae) rr-70.

Local name: Narcal

Rakhaing name: Unn-sthei

Stems solitary, erect or ascending, often leaning, and robust, unarmed, trunks with conspicuous nodal rings. Leaves: sheath coarse, cloth-like, not forming crownshaft; petiole unarmed; petiole base entire, blade pinnate, unarmed, Flowers unisexual, sessile. Fruits drupes, strongly to obscurely 3-angled. Seeds very large, hollow and fluid-filled. Frequent around the house.

Using information: The fruit shell is divided into two parts. The patient is stood on the shell by his leg and given slight pressure. After this processing, touching of soil or water is prohibited. This process is used for the treatment of paralysis.

Coriandum sativum L. (Apiaceae) rr-71.

Local name: Dhania

Rakhaing name: Bohar pata

Erect herb. Branchlets glabrous. Leaves ternately lobed, ovate, base cunete, apex obtuse, flower white, in umbels. Fruits subglobose. Mericarps hollow within. Cultivated in Marginal land.

Using information: Paste prepared from the whole plant, mixed with leaf base of *Ananas comosus* and sugar is taken two tea spoonfuls hourly until cured for the treatment of stone in urinary bladder. Paste prepared from leaf is taken two to three teaspoonfuls twice-thrice daily until cured in gastritis and stomach pain.

Curcuma longa L. (Zingiberaceae) rr-72.

Local name: Halud

Rakhaing name: Nonh

Rhizomatous herb. Leaves oblong or elliptic-oblong, glabrous, base obtuse-cuneate, entire, apex acuminate-caudate. Flowers in spikes. Fruit capsular. Cultivated in slope of hill.

Using information: Paste prepared from turmeric and mixed with lime water is taken one spoonful twice daily for three days for the treatment of cough and applied externally for the treatment of eczema.

Cuscuta reflexa L. (Convolvulaceae) rr-38.

Local name: Sarnalata

Rakhaing name: Tagral

Parasitic twiners. Stems glabrous pale greenish yellow. Leaves ovate. Flowers in racemiform cymes, solitary, white. Fruits capsules. Seeds orbicular, black. Rare in foot of the hill.

Using information: Extract prepared from whole plant is taken two to three tea spoonfuls twice daily until cured for the treatment of tumor and juice mixed with sugar is taken for the treatment of jaundice. Extract of whole plant is also taken to treat cancer.

Cyperus rotundus L. (Cyperaceae) rr-10.

Local name: Mutha ghass

Rakhaing name: Chawomrao

Perennial herbs stem triangular, root adventitious. Leaves 3 ranked, exstipulate, sessile, eligulate, blades narrow & grass like leaf base sheathing, sheath closed. Flower very minute, inflorescence arranged spikelets in spicate, racemosa & umbel. Fruits lens shaped achene. Frequent in the slope of hill and marginal land.

Using information: Extract prepared from whole plant with sugar, is taken one glass daily for seven days during menstrual problem. In addition the lower part of the body is washed out after half an hour of taking the medicine. Boiled water is taken in a dish and leaf of *Cyperus rotundus*, small pieces of turmeric (*Curcuma longa*) and camphor given in the water. Inhalation is taken by the patient for the

remedy of fever.

Dalbergia sissoo DC. (Fabaceae) rr-13.

Local name: Sissoo

Rakhaing name: Sissoo gach

Moderate sized trees. Leaves alternate, pinnately compound. Flowers in terminal panicles. Fruits pods. Frequent in Hilly area. Using information: Decoction of bark is taken two tea spoonfuls twice daily for seven days for the treatment of malaria.

Datura metel L. (Solanaceae) rr-31.

Local name: Dutara

Rakhaing name: Row-shan-they

An erect shrub. Branches spreading. Leaves simple, broadly ovate, shallowly lobed, and glabrous. Flowers purple, large, tubular-funnel shaped. Fruits capsules covered with short spines. Seeds rugose of dotted. Frequent in slope of hill.

Using information: Paste prepared from leaf, in addition with fitkiri (potash alum) polish in the swelling area after injection.

Dillenia indica L. (Dilleniaceae) rr-73.

Local name: Chalta

Rakhaing name: Dabroti

A large evergreen tree. Leaves simple, oblong, serrate acute. Flowers white, solitary. Fruit fleshy, globose, enclosed in accrescent sepals. Occasional around their house.

Using information: Extract prepared from bark is taken two to three tea spoonfuls twice-thrice daily for three months to treat dog bite (rabies).

Enhydra fluctuans Lour. (Asteraceae) rr-23.

Local name: Halancha

Rakhaing name: Codirum

Aquatic herbs. Rooting at nodes. Internodes hollow. Leaves opposite, linear-oblong, truncate. Flowers in heads, yellow. Fruits achenes, laterally compressed. Frequent in marshy land.

Using information: Extract of whole plant (by boiling) is taken twice daily as much as patient can until cured for the treatment of hand and leg swelling.

Entada rheedii Spreng (Mimosaceae) rr-45.

Local name: Gila

Rakhaing name: Dola

A large, woody climber. Leaves bipinnate; leaflets oblong-ovate, obtuse. Flowers pale yellow, in panicled spikes. Pods woody, large; seeds circular, compressed. Rare in the hilly area.

Using information: Extract of root is taken two to three tea spoonfuls twice daily until cured for the treatment of pyorrhoea.

Erythrina variegata L. var. *variegata* (Fabaceae) rr-57.

Local name: Madar

Rakhaing name: Kashipaow

A moderate-sized tree; prickles black. Leaves 3- foliolate; leaflets broadly deltoid, acute. Flowers red, in peduncled auxiliary or terminal racemes. Pods torulose, constricted between seeds. Common in marginal land.

Using information: Extract of root is taken once daily as much as patient can to control nematode.

Eucalyptus globulus Labill (Myrtaceae) rr-14.

Local name: Eucalyptus

Rakhaing name: Australia gach

Tropical plant, growth rate high. Stem erect round. Bark white

and remove like scales leaf simple. Flower white small petiolate. Fruit capsule. Frequent in Hilly area.

Using information: Paste prepared from the ash of leaves and mixed with coconut oil and applied to the affected area until cured for the treatment of allergy.

Eupatorium ayapana L. (Asteraceae) rr-60.

Local name: Aypana

Rakhaing name: Unknown

Perennials, Stems erect. Leaves mostly cauline, usually. Petiolate or sessile, blades usually 3-nerved from or distal to bases, or pinnately nerved. Florets corollas usually white, rarely pinkish, throats funnellform to campanulate, lobes 5, triangular. Cypselae prismatic, 5-ribbed, usually glabrous, usually gland-dotted, pappi persistent. Rare in hilly area.

Using information: Extract prepared from leaf is taken twice or thrice daily as much as patient can until cured to reduce bitterness during fever.

Euphorbia hirta L. (Euphorbiaceae) rr-43.

Local name: Dudhia lota

Rakhaing name: Dudhia

Mostly monoecious herbs that are further characterized by the frequent occurrence of milky sap. Leaves are mostly alternate but may be opposite or whorled and they are simple, or compound. Flowers are unisexual and usually actinomorphic. Fruit is usually a capsular schizocarp. Common in beside the road.

Using information: Paste prepared from whole plant and is used in the fractured area. Extract of whole plant is taken twice daily as patient can until cured from diarrhoea.

Flacourtia jangomas (Lour.) Raeusch. (Flacourtiaceae) rr-59.

Local name: Pannia gola

Rakhaing name: Khoro gola

A medium sized deciduous tree. Leaves ovate-lanceolate, ovate, and acuminate. Flowers greenish yellow of white. Fruit globose. Occasional in hilly area.

Using information: Fruit is taken to remove fish bone stuck in throat.

Hibiscus rosa-sinensis L. (Malvaceae) rr-40.

Local name: Jaba ful

Rakhaing name: Nepe

Shrubs. Leaves alternate, simple, lanceolate, dented. Flowers in axillary racemose, big, tubular below, generally reddish in colour. Plants do not produce fruits, in general. Occasionally found beside the house.

Using information: Paste prepared from leaf and flower and mixed with sugar is applied to the boils until cured.

Ipomoea aquatica L. (Convolvulaceae) rr-33.

Local name: Kolmi

Rakhaing name: Conzoye

Aquatic herbs. Stem with white latex, hollow, spongy. Leaves alternate, simple, variable, elliptic-oblong; flowers in axillary cymes, white-purple, funnel-shaped. Fruits capsules. Seeds glabrous. Common in wet land.

Using information: Extract prepared from leaves is taken single cup twice daily until cured for the treatment of Urinary Tract Infection (UTI) and paste prepared from leaves and applied to the lower abdomen in burning sensation during urination.

Jatropha curcas L. (Euphorbiaceae) rr-64.

Local name: Ban Veranda

Rakhaing name: Tachiapan

Shrubs. Stem soft wooded with latex. Leaves alternate, pinnately

lobed. Flowers in cymose panicles, yellowish green. Fruits capsules, triangular. Seeds brownish black. Frequent in hilly area.

Using information: Latex of stem is used three to five days to treat lip blister.

Justicia adhatoda L. (Acanthaceae) rr-37.

Local name: Basak

Rakhaing name: Bosa

Shrubs. Leaves opposite, simple elliptic lanceolate. Flowers in thyriform spikes, white, bilobed. Fruits capsules. Seeds tubercular-verrucose. Frequent in marginal land.

Using information: Juice prepared from leaf is taken one spoonful twice daily for five days for the treatment of cough.

Kalanchoe pinnata (Lam.) Pers. (Crassulaceae) rr-7.

Local name: Patarkuchi

Rakhaing name: Rocha-bawn

An erect, succulent herb. Stems reddish when young. Leaves 3-5 foliolate. Leaflets oblong or ovate-elliptic, obtuse at apex. Flowers greenish-yellow in paniculate cymes. Lollicles linear. Occasional in around the house.

Using information: Paste prepared from leaf is applied to the burning area. Paste prepared from leaf mixed with salt is taken two tea spoonfuls twice daily until cured for the treatment of cough. Juice prepared from leaf is taken one-two spoonfuls twice daily until cured for the treatment of Pneumonia. Paste prepared from leaf is applied to the lower abdomen two times daily for seven days in excessive menstruation. Paste prepared from leaf and mixed with cold water is applied to the lower abdomen one time daily in urinary problem of child.

Ludwigia repens L. (Onagraceae) rr-12.

Local name: Kashordum

Rakhaing name: Tulehan

Taxonomic description: Herbs slender, erect to prostrate and rooting at nodes, or shrubs or rarely small trees. Leaves alternate, usually entire; stipules present, reduced and/or deciduous. Flowers perfect, actinomorphic. Fruit an obovoid to cylindrical capsule. Frequent beside the road.

Using information: Whole plant boil in water and reduce the volume up to 33% is taken one cupful twice daily for two months to treat tuberculosis and diarrhoea.

Mangifera indica L. (Anacardiaceae) rr-75.

Local name: Aam

Rakhaing name: Sarabam

A large, evergreen tree. Leaves simple, oblong-lanceate, acute. Flowers pale yellow, in terminal racemes. Capsule red, glandular; seeds grayish. Common in Marginal land.

Using information: Tie a piece of root with a thread round the neck of frightened child.

Manilkara zapota (L.) P.Royen (Sapotaceae) rr-4.

Local name: Sofeda

Rakhaing name: Sofeda

Evergreen small tree. Leaves alternative, simple entire penninerved leathery. Flowers small solitary, cymes cluster in the leaf axils. Fruits round, berry, pericarp rough, brownish and fleshy. Occasional in Hilly area.

Using information: Juice prepared from guava's (*Psidium guajava*) leaf and sofeda's leaf (*Achras sapota*) is taken one spoonful twice daily for seven days to treat diarrhoea.

Mesua ferrea L. (Clusiaceae) rr-41.

Local name: Nagersor

Rakhaing name: Gango

A large tree. Leaves oblong-lanceolate, oblong-elliptic, and acuminate. Flowers white. Fruit depressed globose. Frequent in the marginal land.

Using information: Powder prepared from dry flower and mixed with the extract of root, is used in prickly heat and for coldness of body.

Mimosa pudica L. (Mimosaceae) rr-21.

Local name: Lazzabati

Rakhaing name: Shraprem

A prostrate, prickly under shrub. Leaves bipinnate, sensitive. Pinnate 1-2 pairs. Leaflets linear oblong. Flowers pink, in globose heads. Fruits pods, bristle on sutures. Seeds flat. Common in foot of hill.

Using information: Paste prepared from leaves and applied to the boils area for boils suppuration. Whole plant boil in water with sugar and reduce the volume up to 33% is taken one glass twice daily until cured for the treatment of jaundice and boils.

Momordica charantea L. (Cucurbitaceae) rr-76.

Local name: Korolla

Rakhaing name: Tit korola

Climbers with tuberous roots having white spots. Leaves alternate, simple, and deeply lobed. Flowers in panicles, unisexual, yellow. Fruits berries, fusiform with numerous triangular tubercles, orange red when ripe. Seeds flat, corrugate margined, stony. Cultivated in Marginal land.

Using information: Paste prepared (in the internodes of bamboo) from leaves with mustard oil is used externally for the remedy of chest pain.

Moringa olifera Lam. (Moringaceae) rr-6.

Local name: Sazina

Rakhaing name: Dendalum

Medium sized tree. Leaves 2-3 pinnate, compound. Leaflets elliptic or obovate, round at apex. Flower white in axillary panicles. Capsules 3-valved loculicidal. Seeds winged. Frequent in hilly area.

Using information: Extract of leaves is taken two tea spoonfuls twice daily until cured for the treatment of burning, general weakness, headache and insomnia. Extract prepared from root and leaves is taken half cup twice daily for three-five days to treat high blood pressure. Root is crushed on stone and prepared juice is taken three tea spoonfuls twice daily until cured in leucorrhoea. Extract prepared from root and mixed with water (used in rice wash during cooking) is taken one cup for three months for the treatment of leucorrhoea.

Musa ornata L. (Musaceae) rr-77.

Local name: Ramkola

Rakhaing name: Tong-naa-proo-bawn

An erect herb. Pseudo stem brown. Leaves oblong, base not auricled; petiole margins opened. Spathe rose-purple. Fruits 3-5 in each bunch, angled. Occasionally found in the hilly area.

Using information: Spadix is taken as curry to control diabetes.

Musa sapientum Bot. Bull. Acad. Sin. (2002) 43: 77-81. (Musaceae) rr-78.

Local name : Kala

Rakhaing name: Kela

Tall perennial tree-like herb, 10-15 feet high. Root adventitious; underground rhizome. The aerial pseudo aerial stem is composed of long stiff leaf sheaths rolled round each other. Leaves simple, large, petiolate, obtuse, parallel venation. Inflorescence compound spadix, covered with large, violet pink colored bracts called spathe.

Cultivated in Marginal land.

Using information: Ash prepared from the dried banana's fruit shell and mixed with lemon extract is taken single tea spoonful twice daily until cured from splenomegaly of children.

Myristica fragrans Houtt. (Myristicaceae) rr-79.

Local name: Jaifal

Rakhaing name: Unknown

A lofty tree; branches skender. Leaves coriaceous, sometimes oblanceolate and tip candate, base acute, pale yellow brown, pales with red-brown nerves beneath. Male racemes flower long, ellipsoid or ceolate, nodding; bracteolate a scale under the glabrate perianth; bracteilate ovoid, sub-globose or pyriform.

Using information: Powder prepared from fruit is taken three to four tea spoonfuls twice daily to treat burning, general weakness, headache and insomnia.

Nigella sativa L. (Ranunculaceae) rr-80.

Local name: Kalozero

Rakhaing name: Kaillazera

Annual herbs. Leaves alternative, exstipulate, pinnately compound. Inflorescence is terminal, umbel, surrounded at the base by an involucre of bracts. Flower small. Schizocarpic fruit. Cultivated in marginal land.

Using information: Powder prepared from dry fruit is taken twice daily as much as patient can until cured for the treatment of cough, headache and pyorrhoea. Powder prepared from black cumin (*Nigella sativa*), is smelled continuously for three days in weakness and low pressure after delivery and excessive menstruation. Powder prepared from niger (*Nigella sativa*) mixed with mustard oil, is applied to the head to treat hyper pyrexia of children.

Ocimum tenuiflorum L. (Lamiaceae) rr-61.

Local name: Tulshi

Rakhaing name: Tulshi

Herbs. Leaves opposite, simple, ovate-lanceolate, glandular. Flowers in racemes, white or purple. Fruits nutlets, black pitted. Frequent in foot of the hill.

Using information: Extract of leaf is taken one to two spoonfuls twice daily until cured to treat cough.

Oroxylum indicum (L.) Benth. (Bignoniaceae) rr-48.

Local name: Khona

Rakhaing name: Krang-sha-bawn

Tress. Leaves opposite, pinnately compound. Flowers in terminal racemes, large, bell shaped, lobed purplish. Fruits capsules, flat, long sword like. Seeds broadly ellipsoid, hyaline, silvery winged. Frequent in the marginal land.

Using information: Paste prepared from flower is taken one tea spoonful twice daily until cured to treat leucorrhoea and leukemia

Oryza sativa L. (Poaceae) rr-81.

Local name: Dhan

Rakhaing name: Dhan

A herb, up to 70 cm. tall, Culms glabrous. Leaves linear-lanceolate, scabrid, apex acuminate. Sheaths ciliate. Ligules lanceolate. Panicles lax. Spikelets ovate-oblong. Grains oblong. Cultivated in marginal land and jhum cultivation.

Using information: Cooked rice is packed by a cloth and burn in fire, mixed with cold water is taken as much as patient can until cured to treat diarrhea.

Oxalis corniculata L. (Oxalidaceae) rr-16.

Local name: Amrul

Rakhaing name: Kamduahung

A diffuse, creeping herb, rooting at nodes. Leaves trifoliolate. Leaflets obcordate, cuneate at base, emarginate at apex. Flowers yellow, in axillary umbels. Fruit capsules, cylindrical, downy, oblong beaked. Seeds ovoid, brown-black striate. Frequent in moist areas.

Using information: Extract prepared from leaves by boiling is taken one spoonful twice daily for two-three days for the treatment of bone swelling. The leaves are cooked with meat of cow tail is taken after child birth because of insufficient milk and excessive menstruation.

Peperomia pellucida (L.) Kunth (Piperaceae) rr-47.

Local name: Luchipata

Rakhaing name: Chasherrow

Succulent herbs Leaves alternate, simple, membranous. Flowers in spikes, sunken in rachis. Fruits ellipsoid with persistent stigma. Abundant in the shady area.

Using information: Paste prepared from leaf is applied to the boils for the treatment of boil suppuration.

Phyllanthus emblica L. (Euphorbiaceae) rr-35.

Local name: Amloki

Rakhaing name: Sesathe

A medium size tree. Branchlets villous. Leaves simple, linear-oblong. Flowers greenish-yellow, in axillary clusters. Berries globose. Frequent in hilly area.

Using information: Fruit is taken directly twice daily until cured for the treatment of cough. Powder prepared from dried fruit and mixed with honey is taken after lunch and dinner for the remedy of abdominal gas.

Phyllanthus indica L. (Euphorbiaceae) rr-39.

Local name: Orboroi

Rakhaing name: Tambroitri

A small tree to medium sized tree. Leaves stipulate, stipules ovate, fimbriate. Flowers greenish yellow. Fruit fleshy globose. Frequently distributed both in marginal and slope of hill.

Using information: Curry prepared from fruit is taken as much as patient can for the treatment of tumor. When fruit is not available, extract prepared from root is taken two spoonfuls two-three times daily until cured.

Piper betel L. (Piperaceae) rr-15.

Local name: Pan

Rakhaing name: Pan

Small trees, shrubs, subshrubs, or rarely herbs, erect or reclining, glabrous or pubescent. Leaves alternate, pubescent. Leaf blade conspicuously pinnately veined, lateral veins ascending-arching. Spikes opposite leaves, ascending-arching, densely flowered, distally drooping. Flowers sessile, borne on surface of rachis; floral bracts fringed with whitish hairs. Fruits sessile, oblong. Cultivated in marginal land.

Using information: Extract of leaves, mixed with seed powder of *Tamarindus indica*, *Piper nigrum* and salt is taken three tea spoonfuls twice daily until cured for the treatment of fever.

Psidium guajava L. (Myrtaceae) rr-5.

Local name: Payara

Rakhaing name: Gayam

Medium trees. Stem erect woody, branched. Leaves simple, exstipulate, opposite, coriaceous, pinnately reticulate, margin entire. Inflorescence axillary and solitary. Flower bracteate. Fruit is simple, berry. Common in marginal land and slope of hill.

Using information: Young leaf is taken directly in diarrhoea. Extract prepared from root is taken two to three tea spoonfuls twice daily for two-three days in diarrhea.

Rauwolfia serpentina (L.) Benth. (Apocynaceae) rr-63.

Local name: Sorpoganda

Rakhaing name: Kayamusiba

Under shrubs. Leaves in whorls, simple lanceolate. Flowers in corymbose cymes, tubular, white. Fruits berries, globose. Seeds solitary, ovoid. Rare in marginal land.

Using information: Extract prepared from root is taken one tea spoonful twice daily for three days for the treatment of insomnia and high blood pressure.

Santalum album L. (Santalaceae) rr-42.

Local name: Sheto chandan

Rakhaing name: Netha

Trees, branches dropping. Leaves alternate, simple, and elliptic-lanceolate. Flowers in cymes, small, brownish purple. Fruits globose, black when ripe. Rare in hilly region.

Using information: Extract prepared from stem is applied to the burning area and eczema.

Extract prepared from stem, mixed with long snail shell powder and salt is taken one tea spoonful twice daily until cured for the treatment of cough.

Saraca asoca (Roxb.) Wild. (Caesalpiniaceae) rr-51.

Local name: Asoke

Rakhaing name: Unknown

A medium sized tree. Leaflets oblong-lanceolate or oblong acuminate. Flowers bright yellow, orange or red. Pods oblong. Occasional around their house.

Using information: Paste prepared from flower is taken three-four tea spoonfuls twice daily until cured in excessive menstruation (Menorrhagia).

Senna alata (L.) Roxb. (Caesalpiniaceae) rr-54.

Local name: Dadmardan

Rakhaing name: Daud

A soft wooded shrub with thick downy branches. Leaf rachis long, stout, channeled; leaflets 10-12 pairs, oblong, obtuse, glabrous. Racemes spiciform, stout with yellow flower. Rare beside the road.

Using information: Paste prepared from leaf is applied to the affected area for the treatment of eczema and paste is taken two tea spoonfuls twice daily to treat constipation.

Solanum lycopersicum L. (Solanaceae) rr-74.

Local name: Tomato

Rakhaing name: Khoro baiyon

An undershrub. Leaves imparipinnate. Leaflets alternate, sinuate-dentate, base unequal, apex acuminate. Flowers yellow, in axillary cymes. Berries fleshy, red when ripe. Cultivated in Marginal land.

Using information: Paste of leaves with sugar is taken half cup twice daily for seven days for the treatment of tuberculosis. Juice prepared from tomato with sugar is taken one cupful for the remedy of bleeding during vomiting.

Solanum torvum Sw. (Solanaceae) rr-8.

Local name: Goth begun

Rakhaing name: Tit bayun

An armed shrub, stellate-pubescent. Leaves simple, ovate,

sinuately lobed. Flowers white, in extra-axillary corymbose cymes. Berries globose, yellow. Cultivated in slope of hill.

Using information: Extract of root is taken two to three tea spoonfuls twice daily until cured for the remedy of fever. Half teaspoonful powder of whole plant mixed with one glass of water is taken twice daily for 12-15 days for the treatment of gastritis, flatulence and stomach pain.

Streblus asper Lour. (Urticaceae) rr-56.

Local name: Shaora

Rakhaing name: Wohin

A small tree. Leaves simple, ovate or obovate, serrate, obtuse to cuneate at base, acute at apex. Flowers white, in axillary cymes. Drupes enclosed in fleshy, yellow perianth. Frequent in besides the Roads.

Using information: Extract of root is taken two tea spoonfuls twice-thrice daily until cured for the treatment of excessive menstruation (Menorrhagia).

Tamarindus indica L. (Caesalpiaceae). rr-2

Local name: Tentul

Rakhaing name: Tatu

Trees. Leaves pinnately compound. Flowers in racemes yellow. Fruits pods, compressed, pulpy, sour. Seeds orbicular, blackish brown. Common in slope of hill.

Using information: Paste prepared from leaf is applied externally to the eyelid for the treatment of conjunctivitis. Slightly warmed leaves is applied to the affected area externally to relief pain in breast of pregnant women and leaf extract is taken two tea spoonfuls twice daily for seven days for excessive menstruation.

Tectona grandis L. (Verbenaceae) rr-11.

Local name: Segun

Rakhaing name: Chyan-way-pawn

Trees. Leaves opposite, simple, large, surface rough flowers in dichotomous cymes, white, calyx persistent, bladder like; fruits drupes. Seeds bony. Common in Hilly area.

Using information: Bark infuses in water for 24 hours and this water is taken half cup twice daily for seven days for the treatment of leucorrhoea.

Terminalia arjuna (Roxb. ex DC.) Wight & Arn. (Combretaceae) rr-34.

Local name: Arjun

Rakhaing name: Tama

Trees. Barks smooth, grey, flaking off. Leaves alternate, simple with two glands at the base, elliptic. Flowers in axillary spikes. Fruits drupes, ovoid 2-5 winged, seeds stony, solitary. Frequent in Hilly area.

Using information: Leaves and bark boil in water then take bathe by this water for three days for the treatment of Scabies and itching.

Terminalia belerica (Gaertn.) Roxb. (Combretaceae) rr-28.

Local name: Bohera

Rakhaing name: Pangathe

A large tree. Bark bluish-grey, fissured. Leaves simple, ovate-obovate or broadly elliptic, obtuse or emarginated at apex. Flowers cream coloured, in axillary spikes. Drupes globose, obscurely 5-angled,

Brown-tomentose. Occasional in hilly area.

Using information: Fruit is taken directly twice daily until cured to

treat cough and diarrhoea.

Terminalia chebula (Gaertn.) Retz. (Combretaceae) rr-36.

Local name: Haritaki

Rakhaing name: Tamada

Trees. Leaves alternate, simple, hairy, elliptic- oblong. Flowers in spikes, dull white. Fruits drupes, ellipsoid, yellowish green. Seeds stony, five-angled. Frequent in hilly area.

Using information: Ripened fruit or green fruit is taken directly twice daily until cured for the treatment of cough.

Zingiber officinale Roscoe. (Zingiberaceae) rr-82.

Local name: Ada

Rakhaing name: Ada

Rhizomatous herb. Leaves oblong-lanceate, acuminate. Flowers pale yellow in spikes. Capsules oblong. Cultivated in slope of hill.

Using information: Extract prepared from zinger by boiling and mixed with gur of *Borassus flabellifer* or honey is taken half cup twice daily for five to seven days for the treatment of indigestion and cough.

Ziziphus mauritiana Lam. (Rhamnaceae) rr-24.

Local name: Kul

Rakhaing name: Zebai

A much branched, thorny tree. Leaves simple, sub orbicular or ovate-elliptic. Flowers greenish-yellow, in axillary cymes, drupes globose, yellow or red when ripe. Common in around the house.

Using information: Fruit is cut into pieces and infuse into water for two-three hours is given to the child when feel thirsty in dehydration. Extract prepared from bark is taken one tea spoonful twice daily until cured for the treatment of diarrhoea.

4. Result and discussion

The Rakhaing community is used a diverse group of plants for the treatment of several diseases/illness. A total of 82 species in 77 genera under 51 families have been documented. Of them the most used family in terms of number of species is Fabaceae for medicinal purposes. Similarly Caesalpiaceae, Apocynaceae, Combretaceae, Euphorbiaceae, Mimosaceae, Solanaceae have been used respectively. According to the informants *Allium sativum*, *Azadirachta indica*, *Cajanus cajan*, *Calotropis gigantea*, *Cassia fistula*, *Catharanthus roseus*, *Centella asiatica*, *Kalanchoe pinnata*, *Moringa oleifera*, *Nigella sativa* and *Solanum torvum* are most frequently used species to treat several diseases/illness. *Moringa oleifera* is most commonly used to treat high blood pressure. Out of all the plants of ethnomedicinal significance, 27 species are herb, 16 species are shrub, 33 species are tree and 06 species are climber. On the basis of life forms herb, shrub, tree and climber percentage are 33%, 20%, 40% and 7% respectively. By analyzing the present studied ethnobotanical data it is observed that they used different plant or plants parts as their medicine for the treatment of several diseases/illness. Most of the utilized plant part is leaf, along with other plant parts. The preference of leaf as medicine by Rakhaing community because leaf is available and easier to collect, store, processing and handling.

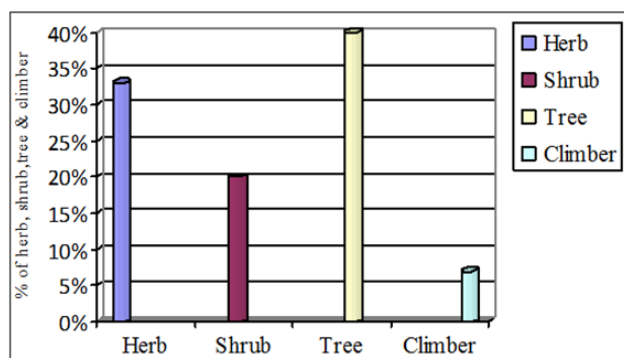


Fig 1: Percentage of herb, shrub, tree and climber used for their preparation of herbal medicine.

The Rakhaing has knowledge of herbal treatments for wide range of diseases/illness. In the present study, about 35 diseases/illness have been recorded which have been treated by 82 plant species. The most frequently treated disease/illness are skin diseases/illness (boils, blister, eczema, itches, pox, scabies and skin eruption); cough; diarrhoea; general weakness with burning and headache (GBH); menstrual problem; insomnia; gastrointestinal tract disorders (GIT); fever; jaundice; vomiting; leucorrhoea and high blood pressure (HBP) respectively. Twelve species of the present study are used by different informants for the treatment of same diseases.

The most frequently cited modes of preparation are juice (extract of any plant part), paste and decoction (boiling of plant parts) and powder; infusions (steeping plant parts in water) and bath also used occasionally. Materials prepared as juice, decoction or paste is mixed with a variety of spices, oil or pharmacological agents.

The maximum number of applications are orally administered or called internal application. It is preferred by the Rakhaing community because they believe that entering medicine into the body is most effective. Medicines that are indicated to be administered orally included those claimed to be used mainly for cough, diarrhoea, Topical or local application of plant as medicine is also referred by them in many cases. Bath, fomentation, inhalation, plaster, rubbing and tying plant parts to the body parts are also used occasionally.

Day by day, they lost their previous glorious heritage of plant use Knowledge, lack of proper documentation and the present generation is less interested to continue it. The younger generation especially tends to be more open too health centers or doctors than their parents, and they do not know how to prepare or referred to the diseases/illness. The present generation lost the interest to continue their parental profession because it does not provide them proper financial support to their livelihood. Most of them become modernized and dependent in synthetic medicine. Plant resources become less available to meet their present necessity because of deforestation and destroying the plant habitat by different anthropogenic activities. If this condition continue; their traditional plant use knowledge, basically knowledge of medicinal plant use is under threat and may be disappearing rapidly. Now, it is a burning necessary to document their plant use information to protect them from disappearing and revive their glorious plant use heritage. These information can be the source, and help the researchers for the discovery of new drugs.

5. Acknowledgements

The authors express their deep sense of gratitude to the informants and the Bangla men and women who helped them in many different ways during the field work.

6. Reference

- Ahmed M. Glimpes of Cox's Bazar. Cox's Bazar Foundation, 1995, 24-270.
- Alam MK. Ethnomedicobotany of the Marma tribe of Bangladesh. *Economic botany* 1992; 46(3):330-35.
- Alam MK. Documentation of ethno biological information. In: Banik RL, Alam MK, Pel SJ & Rastogi A (eds.), *Applied Ethnobotany. Proceedings of Subregional Training Workshop on Applied Ethnobotany*. BFRI, Chittagong, Bangladesh 1998, 28-29.
- Alexiades MN. Protocol for conducting ethnobotanical research in the tropics. In: Alexiades, MN & Sheldon JW (eds.) *Selected Guidelines for Ethnobotanical Research: A Field Manual*. The New York Botanical Garden, Bronx, New York, 1996.
- Anisuzzaman MA, Rahman HMM, Harun-Or-Rashid M, Naderuzzaman ATM, Islam AKMR. An Ethnobotanical Study of Madhupur, Tangail. *Journal of Applied Sciences Research, INSInet Publication* 2007; 3(7):519-530.
- Baker M, Momen SN. Tangailer Upajati Garo Sampraday: Jibon O Sankskriti, In: baker, M. (ed.). *Tangail Jellar Itihas O Oitijjha*. Tangail, Bangladesh, 2001, 260-267.
- Begum N, Haq MF, Nather K. *Medicinal Plants for the Survival of Rural people*, 2000, 97-106.
- Chakma S. *Chakma Parichiti*. Bangang Publication, Rangamati, Bangladesh, 1992.
- Chakma GB. *Local Government Parishad of the Hill Tracts in Historical Prospect (In Bengali)*. Rakhaing Cultural Institute, Rangamati, Bangladesh, 1992.
- Gain P. Life and nature at risk. In: Gain, P. (ed.). *The Chittagong Hill Tracts. Life and nature at risk*. Society for Environment and Human Development, Dhaka, Bangladesh, 2000.
- Given DR, Harris W. *Techniques and methods of ethnobotany as an aid to the study, evaluation, conservation and sustainable use of biodiversity*. Commonwealth Secretariat, London, 1994.
- Hasan MA, Huq AM. *Amader Bonoushudi Shampad*. Hasan Book House, Dhaka, Bangladesh, 1993, 184.
- Hassan MA, Khan MS. Ethnobotanical records in Bangladesh. *Plants used for healing cuts and wounds*. *Bangladesh J of Plant Tax* 1996; 3(2):4952.
- Kadir MH. Bangladesh flora as a potential source of Medicinal plants and its conservation Strategies. In: Ghani, A (Editor), *Traditional medicine*. Institute of life science, Jahangirnagar University, Savar, Dhaka, 1990, 73-77.
- Khan MS, Hassan MA, Uddin MJ. Ethnobotanical Survey In Rema Kelanga Wildlife Sanctuary (Habiganj) in Bangladesh. *Bangladesh J Plant Tax* 2002; 9:51-60.
- Millat-e-Mustafa M, Begeum K, Al-Amin M, Alam SM. Medicinal plant resources of the traditional homegradens in Bangladesh. *Trop Med Plant* 2001; 2(1).
- Pal DC, Jain SK. *Rakhaing Medicine*. Naya prakash, 206 Bidhan sarani, Calcutta 1996, 1.
- Pasha MK, Uddin SB. *Dictionary of Plant Names of*

- Bangladesh. Janokalyan Prokashani, Chittagong, Bangladesh, 2013, 1-434.
19. Rahman MA, Khisa A, Uddin SB, Wilcock CC. Indigenous Knowledge of plant Use in a Hill Tract Rakhaing Community and Its Role in Sustainable Development, 2000, 75-78.
 20. Rahman MA, Uddin SB, Wilcock CC. Indigenous knowledge of herbal Medicine in Bangladesh diarrhea, dysentery, indigestion and stomach pains. J of Medicinal and Aromatics plant Sciences 2003; 25:1001-1009.
 21. Rahman MA, Uddin SB, Wilcock CC. Medicinal Plants used by Chakma tribe in Tracts districts of Bangladesh. Indian Journal of Traditional Knowledge 2007; 6(3):508-517.
 22. Rao NR, Henry NA. The ethnobotany of Eastern Ghats in Andhra Pradesh, India. Botanical survey of India, 1996, 1-2.
 23. Roy RD. The Chittagong Hill Tracts Life and Nature at risk. 2000, 1-10.
 24. Tanchangya JC. Tanchangya Upajati Sankhito Parichiti (in Bengali). Rakhaing Cultural Institute, Rangamati, Bangladesh, 1994.
 25. Tripura SL. Parbattya Chattagramer Prakiiti O Sanskriti (in Bengali). Rakhaing Cultural Institute, Rangamati, Bangladesh.
 26. Uddin SB. A comparative ethnobotanical study among the Rakhaing communities of Chittagong hill tracts districts, Bangladesh (Ph.D paper), 2001.
 27. Uddin SB, Rahman MA, Uddin MG, Pasha MK. Ethnobotanical Use of Pteridophytes from Chittagong Hill Tracts of Bangladesh. Nepal journal of Plant Sciences. 2008; 2(1):89-93.
 28. Uddin SB. Medicinal Plants Database of Bangladesh. www.mpbd.info.2010.
 29. Yusuf M, Chowdhury JU, Wahab MA, Begum J. Medicinal plants Bangladesh. Premier Enterprise, Chittagong. Preface, 1994, 3-4.