ISSN 0976 – 3333

Available Online at www.ijpba.info

International Journal of Pharmaceutical & Biological Archives 2014; 5(3): 138 - 149

ORIGINAL RESEARCH ARTICLE

Practice of Ethno-medicine among the Chothe Tribe of Manipur, North-East India

Cheithou Charles Yuhlung*[1] and Mini Bhattacharyya[2]

[1]*Post Doctoral Fellow, Dept. of Anthropology, Gauhati University, Assam -781014, India*
[2] *Dept. of Anthropology, Gauhati University, Assam -781014, India*

Received 11 Mar 2014; Revised 14 Jun 2014; Accepted 23 Jun 2014

ABSTRACT

The paper focuses on ethno-medicine practiced by the Chothe an indigenous tribe of Manipur. They have been practicing ethno-medicine since early days but nowadays their tradition is deteriorating with ignorance of its traditional values. But, few herbs and plants are still used in the treatment of various ailments and diseases till date. There are about 47 ethno-medicinal plants and 8 religious significant plants identified that are considered useful to our fragile health. Most of these plants identified are consumed as daily food items, while some are used for specific remedial purposes in the treatment of certain types of ailments and diseases like fever, cough, asthma, bronchitis, gastritis-ulcer, jaundice, piles, etc. Besides, some of these plants have religious significance too. The changing environmental conditions worldwide have also impacted on their food habits, health and lifestyle which now pose a threat to their existing life.

Key words: Practice, Ethno-medicine, Chothe tribe, Indigenous, treatment, diseases.

INTRODUCTION

The Chothe is a small indigenous tribe of Manipur, located in the North-Eastern region of India. The North-Eastern region is inhabited by many distinctive tribes, sub-tribes and ethnic groups. The region is identified and ranks 8th amongst the 34 'Bio-diversity Hotspots' region of the world [1,2]. It is located in temperate tropical rain forests zone within 23^{0}51' N and 25^{0}41' N Latitudes and 93^{0}3' E and 94^{0}4' E longitude bordering Myanmar [3]. The region is richly supported with diverse flora, fauna and crop species.

Traditionally, before advanced technology and pharmaceutical medicines were developed, almost every community of the past and present, small and great used various herbal plants as medicines in the treatment of various human ailments. This traditional treatment method is being ignored by the Chothe now for obvious reasons of modernisation and others. Chakraborty opines that the North-Eastern ethnic communities based their traditional knowledge of medicine on their needs, instinct, observation, trial and error, and long experience in the healing methods. Such knowledge often served as an important part of their cultural identities [4]. Pfoze said that it is estimated that a total of 60% of the world population and 80% of the population in developing countries depend on traditional medicines, mostly plant drugs for their primary health care needs [5]. In most developing countries like India the flora remain virtually unexplored from practical utilization, yet past experiences have shown that many valuable drugs have been derived from plants [6]. Singh and Arora (1978) states that about 800 species of wild edible plants occur in different floristic regions are consumed by the tribal communities of the region, and that about 50 % of the plants identified from the region have medicinal values [7]. Mao AA states that about 50% of the total 17500 flowering plants hail from the region, and 40% of them are endemic [8].

The *World Health Organization* (WHO) recognizes the healing properties of these traditional medicinal herbs and therefore suggest research should be stepped up [9,10]. Hazarika states that WHO estimates about 80% of the population of most developing countries relies on herbal medicines for their primary healthcare need [11]. Shankar said medicinal plants exploration in North Eastern India has been carried out in the various forests including crude drugs markets up to the range wherever medicinal plants produce are sold in the markets [12]. Various attempts have also been made for the acclimatisation through cultivation of medicinal plants from one zone to another in the Region. The crude drugs produce from the region are traded in the markets of

***Corresponding Author:** Dr. Cheithou Charles Yuhlung**, Email:** charlesyuh@gmail.com, **Phone No:** +91- 9862552550

Assam, West Bengal, Bihar and even in the Central market of Delhi. Despite the news of over exploitation of medicinal plants in the region, alertness has created among the dedicated researchers to continue their exploration and document the various ethno-medicines amongst various ethnic tribes and groups. Thus, many local Indian scholars have began their ethno-medicinal studies among various North-Eastern tribes like by Shankar- Mishing [13], Khongsai- Arunachal Pradesh [14]; Ripunjoy- Kachari [15], Das- Cachar [16], and Basumatary-Bodo of Assam [17]; Jamir- Ao of Nagaland [18]; Singh- Khasi [19], and Jaiswal- Jaintiaof Meghalaya [20]; Rajkumari- Chiru [21], and Pfoze- Mao [22], Prakash- Rongmei [23], Yumnam- Meitei [24], Singh [25], Jain-of Manipur [26]; Rai- Mizoram [27], and so on.

The Chothe, like any indigenous tribe of the world do practice ethno-medicines when a person suffers from certain ailments and diseases. This traditional method of healing and curing has been handed down orally from one generation to the next in the form of folklore, folktales, and sayings. Accordingly, it is seen that they used various parts of the plant like leaves, barks, seeds, roots, etc. and also herbs, creepers, climbers, shrubs, grasses, etc, as single item or by mixing with other ingredients in the treatments of healing and curing certain ailments, sicknesses and diseases. These plant items are used in diverse forms of- fresh or raw, dry or powder, or as culinary or concoction, or as tonic.

OBJECTIVES OF THE STUDY

The basic object of the study is to explore and document the ethno-medicinal plants used by Chothe in the treatment of various ailments and diseases since, no serious study has been carried out on them in this area. The rapid declined in usage, ignorance, changed in climate, environment and advancement in pharmaceutical medicines has posed a serious threat to their practices. The study is expected to have immense value and relevance for the future generation as well as enriching the existing knowledge in the area of indigenous ethno-medicinal studies.

AREA OF THE STUDY

The study area is based in the state of Manipur, India. The study covers the indigenous entire community of Chothe inhabiting in two districts of Bishnupur and Chandel.

MATERIALS AND METHODS

The study is carried out among 10 selected respondents (since the population is small); represented by village chiefs, priests, elders, senior leaders besides three elderly women. The primary sources of data are collected using interview-scheduled guide techniques as its tool by going to the field. For the comparative analysis of the data, secondary sources like published works and internet materials available in different websites are also utilised.

About Chothe Tribe

Historically, the Chothe has been described as one of the oldest tribes that migrated to southern Manipur prior to 15th century, much before other new ethnic tribes entered [28-30]. They have distinctive language, kinship, culture, religion, economic and political institutions. They belong to the Mongoloid racial stock and speak Sino-Tibetan language of Tibeto-Burman family under the Chin-Kuki and Naga-Kuki linguistic group as 'Old-Kuki' speakers [31]. According to Census of India 2011, the Chothe population is 3850 (1706/M-1879/F) and the literacy rate is 69.79% [32]. Although Chothe have a very small population, is a recognized *Scheduled Tribe* of Manipur under the Government of India Act of 29th October 1956 [33]. The majority of Chothe are now Christians, and only a handful of them especially from Lamlanghupi village of Bishnupur district still practice their indigenous faith who upholds their traditions and customs. The various neighbouring tribes of Chothe are like Aimol, Chiru, Anal, Moyon, Monsang, Lamkang, Tarao, Maring, Rongmei (Kabui/ Zeliangrong), Kom, Thadou speaking groups (New-Kuki) and the Meitei.

Table 1 Common Type of Ailments and Diseases Treated by Chothe Tribe

S. No	Types of Ailments and Diseases
1	Cough, Fever, Toothache, Bronchitis, Tonsillitis, Asthma, Astringent.
2	Cuts, Wounds, Blood clotting, Sprang, Fracture of bones.
3	Stomach-ache, Burning sensation of stomach, Dysentery, Diarrhoea, Acidity, Gastric, Chronic-ulcer, Constipation, Lack of appetite, Piles, Intestinal worm dispeller, Carminative stimulant.
4	Hypertension, Giddiness, Nausea, Astritis, Rheumatism.
5	Jaundice, Liver problems, Hepatic problem, Anti-pyretic.
6	Paralysis, Epilepsy, Muscular pains, Nervous spam, Depression.
7	Boil, Scabies, Septic, Allergy, Anti-insecticides, Anti-wormicide, Smallpox, Minor tumour, Measles, Ringworm, Haemorrhoid, Extra tissue growth.
8	Urinary problem, Stone Kidney problem, Gonorrhoea, Uterine problem.

© 2010, IJPBA. All Rights Reserved.

9	Blood purification, Enhance body immune system, Enhance body stimulant.
10	Antidotes of dog bite and snake bite, Termination of conception of a child (Abortion).

Table 2: Chothe Indigenous Medicinal Plants and Its Treatment Methods

S. No	Botanical name [Family]- Common name	Chothe name- [H,Sh, T, C]	Manipuri name [Seasonal (S)/ Perennial (P)]	Parts used [Forms]- [Orally (O)/ Externally (E) used]	Diseases –Treatment Methods and its dosages
	Centella asiatica Linnaeus. Urb. [Apiaceae]- Asiatic Pennywort	*Anleiphon/ Ariphon*- [H]	*Peruk* [S]	Leaf and stem (whole plant) [Raw]- (O), (Served as culinary)	Hypertension, Gastritis, Chronic ulcer, Constipation, Blood Purification. Persons suffering from serious hypertension, gastritis, chronic ulcer may take about 30-60ml of the extract liquid obtained from crushing the whole plant (leaf and stem). A spoonful of honey may be mixed or taken singularly as tonic before each meal regularly for a period of 1 week or more, depending upon the seriousness. If needed, the liquid may be diluted with some water and taken. Persons suffering from mild hypertension, weak immunity, constipation or wished to enhance blood purification system may take a glass full of the boiled plant as concoction after or before meal or anytime. The Chothe as health precautionary measure often eats the whole plant by boiling or as simple cooked curry or in raw form mixed in chutney to enhance body stimulation.
	Oroxylum indicum Linn. Kurz. [Saururaceae]- Lizard tail	*Anleithaan g* [H]	*Toningkok* [P]	Leaf and stem [Raw] –(O), (Served as chutney)	Gonorrhoea Persons suffering from gonorrhoea may take about 20-30ml liquid of the crushed leaves and white stems mixed with little local salt before meal regularly for a week or till one gets cured. Chothe eats this herb along with chutney made of local dry fish, chilly and other ingredients by those who like the strong aroma.
	Eryngium foetidum Linn. [Apiaceae]- Saw tooth	*Awa-neem (Somey)* [H]	*Awa-phadigom* [S]	Leaf or whole plant [Raw] –(O), (Served as culinary)	Liver and Hepatic problems. Person suffering from liver and hepatic problems may take about 10-15ml of the extracted liquid of the leaf obtained by crushing mixed with a spoonful of honey regularly before each meal for a period of 1- 2 weeks. The Chothe often served the leaves especially in beef curry, or adds the raw leave in dry meat chutney as it enhance its taste and aroma.
	Eupatorium, cammanoi Linn. [Asteraceae]- Hempagrimony	*Aripung/ Renglei* [H]	*Langtharei* [S]	Leaf [Raw] –(O), (Has religious significance)	Acidity, Gastritis and Burning Sensation. Person suffering from frequent acidity or gas formation in the stomach may take about 10-20ml of the extracted liquid of the leaves obtained by crushing in empty stomach before each meals or atleast three times in a day. Or one may dilute the liquid with little water in a glass mixed with little salt and have it. If a person suddenly suffers from burning sensation of stomach from excess of eating chilly may eat few fresh leaves and later drink a glass of water, or have it in tonic form as described above for immediate relief from the pain. It is also used in certain offertory rituals.
	Lantana camara Linn. [Verbenaceae]- Big/ wild sage	*Aring toh* [Sh]	*Nongban lei* [P]	Leaf [Raw] –(E), (Served as culinary)	Blood Clotting for Cuts and Wounds, Acts as Anti-fungal, Microbial and Insecticidal. If a person suffers from minor cuts and wounds few fresh leaves may be crushed and the paste is immediately applied on the parts of cut or wound to stop from bleeding. This leaf is considered the best remedy for blood clotting and healing the cut or wound fast. It is also believed to act as anti-fungal, microbial and insecticidal. The tender leaves are eaten as simple curry with dry meat or fish, but seldom taken.
	Curcuma zedoaria Christm. Roscoc. [Zingiberaceae] - Turmeric	*Aisan* [H]	*Yaingang* [S]	Rhizome [Raw]–(O), (Has religious significance as well as eaten as culinary)	Carminative Stimulant, Intestine Worms, Cut, Complexion. Person suffering from indigestion, weak bowel or abdomen muscles, and carminative problems may drink about 30-50ml of the extracted liquid obtained by crushing the raw rhizome of *Aisan* by mixing with little water and salt. This tonic should be taken before morning's food in empty stomach atleast for 3-4 days. However, it is recommended to have once or twice ina month as health precaution as it helps in strengthening the bowel muscles and stimulates the digestive systems. This *Aisan* tonic is also given to children believed to suffer from infested intestinal worms like tape worms, ascaris, etc. 2-3 times in a week. If a person suffers from a major cut or wound on any body parts, the paste of crushed raw turmeric mixed with little mustard oil and lime (limestone)may be applied on the cut area and bandaged for 2-3 days. Because of its special property as a good agent of blood clotting and antiseptic,

© 2010, IJPBA. All Rights Reserved.

					the wounds are healed faster with dry skin.) The raw turmeric is roasted and eaten as chutney considered good for complexion. Chothe served it in culinary for colour and flavour. Sometimes the fresh leaves are used in preparing a special cuisine by wrapping the local small fish mixed with chilly and salt, where the package is roasted under the hot fire ash or steamed above the rice.) The Chothe believed that the colour and odourof *Aisan* can dispel evil spirits. Therefore, they applied on their forehead while going in unknown forest areas. When feared from nightmares or to avoid from bad dreams they kept it below their pillow along with few pods of garlic.
	Curcuma caesia Roxb. [Zingiberaceae] - Black turmeric/ Black zedoary (Ginseng)	*Aisan ahang* [H]	*Yaimu* [S]	Rhizome [Raw] – (O), (Has religious significance)	Smallpox, Tumour, Dispeller of Magical Spell. If a person suffers from smallpox or minor tumour the crushed rhizome is mixed with little mustard oil and is applied on the smallpox area or around the tumour. This procedure is repeated till the disease is cured. The patient (if feels) may eat some amount of the fresh or dry rhizome about 10-20mg after food. Traditionally, some local medicine manor priest gives to a person considered suffering from the magical spell and charms to drink the crushed liquid of this rhizome mixed with little water and salt after offering ritual. This tonic is taken for 3-4 days any time of the day. This rhizome (ginseng) is considered rare to find.
	Zingiber officinale Rosc. [Zingiberaceae] - Ginger	*Aithing* [H]	*Shing* [S]	Rhizome [Raw] – (O/E), (Eaten as culinary and has religious significance too)	Cough, Bronchitis, Piles and Divination Purposes. If a person suffers from both cough and bronchitis, one may chew piece of raw ginger time to time till one gets cured, or about 5-10ml of the crushed juice is mixed with little salt and taken before food till one gets cured. As a precaution, a piece of ginger may be boiled along with red tea and is taken regularly to enhance body stimulation or immune system.) Person suffering from constipation may insert inside ones anus small amount of the crushed ginger mixed with little mustard oil or burnt kerosene residue. While person suffering from minor piles may repeat this process till it requires.) The Chothe, besides using fresh ginger in curry also use for ritual purposes especially for divination.
	Allium sativum Linn. [Alliaceae]- Garlic	*Satun* [H]	*Chanam* [S]	Bulb [Raw] – (O), (Used as culinary and has religious significance)	Fever, Paralysis, Muscular Pain. Person suffering from slight fever, rheumatism, arthritis or semi-paralysis may apply the ointment prepared with few pods of garlic and some pure mustard oil after heating up on the fire in a bowl. The ointment may be applied as balm massaging the painful joints, forehead, chest, back, palm and feet till the body temperature returns to normal condition. The Chothe, besides serving as daily culinary item believed that the smell can dispel the evil spirit. So when they suffer from bad dreams or nightmares used to keep it under their pillow or mattress.
	Alpinia galangal Linn. Willd. [Zingiberaceae] - Greater galangal	*Marou (Brou)* [H]	*Kanghu* [S]	Rhizome [Dry] – (O), in powdered form	Piles and Termination of Conception of a child (Abortion). Person suffering from piles may drink about 30-40ml of the extracted liquid obtained by crushing the rhizome in the morning for a week or till one is cured. For taste, a spoonful of honey may be added. Woman who wants to terminate early conception of a child may drink about 50-60ml of the extracted liquid of it early in the morning in empty stomach till it ovulates.) As health precautionary measure, the Chothe and neighbouring tribes sometimes consumed along with chutney, especially mixed with dry beef meat or boiled hides.
	Spilanthes acmella Murr. [Asteraceae]- Toothache plant	*Mashisapi* [H]	*Leisabi* [S]	Flower [Raw] – (O/E), (Served as culinary too)	Toothache. If a person suffers from toothache the flower may be crushed with hands and inserted in the cavity of the toothache or put around the aching tooth time after time till it gets relief. Fresh leaves are also eaten boiled or as simple cooked curry with dry fish or meat.
	Benincasa hispida Thunb. Cogn. [Cucurbitaceae] - Ash-gourd/ Winter melon	*Maipoy* [C]	*Torbot* [S]	Fruit [Raw] – (O/E), (Served as culinary too)	Giddiness, Nausea and Chronic ulcer. Person suffering from frequent giddiness or nausea may apply the paste of this matured *Maipoy* fruit above the head. The preparation method is that the outer green cover of the fruit is removed and the inner white fruit is sliced into small pieces (semi-paste form) with a spoon without touching ones hand for the required purpose. The paste is poured into a thin cloth and wrapped directly on the head. Person suffering from chronic ulcer may also eat it in

© 2010, IJPBA. All Rights Reserved.

					boiled form in empty stomach each morning or as simple cooked curry regularly.
	Gynura cusimbua D. Don/S.Moore. [Asteraceae]- Hill gynura	*Muhun lou* [H]	*Tera paibi* [S]	Leaf [Raw] – (E)	Cuts and Wounds. If a person suffers from cuts and wounds may crushed the leaves and the paste is applied on the cut or wounds immediately to stop from bleeding as it helps blood clotting and acts as antiseptic.
	Plantago erosa Wall.ex Roxb. [Plantaginaceae]- Plaintains	*Antapot* [H]	*Yampat* [S]	Leaf/ stem [Raw] – (E), (eaten as culinary too)	Boils and Wounds. Person suffering from boils may heat up little on the fire the fresh leaves till it gets decoloured. Then it is smashed little and is applied on the boil part with little opening in the tip. This is repeated till the pus comes out or it is healed. The tender leaves are also eaten boiled or as simple cooked curry.
	Elsholtzia blanda Benth. [Lamiaceae]- Lomba	*Lengtu* [H]	*Lomba* [S]	Leaf and flowers [Raw] – (O), (Eaten as culinary too)	Asthma, Nervous spasms. Person suffering from asthma and nervous spasms may take about 2 tea spoonful of the extracted liquid of the crushed leaves mixed with some water daily before each meal, till it gets cured. The leaves and flowers are added as flavour in fish curry and chutney.
	Menthe arvensis Linn. [Lamiaceae]- Spearmint	*Nungsi hidak* [H]	*Nungsi hidak* [P]	Leaf [Raw]- (O)	Stomach ache, Gastric, Antipyretic. Person suffering from stomach ache, gastric and antipyretic cases may take about 10-20ml liquid of the crushed fresh leaves (or mixed with little honey) twice a day. The fresh leaves are also eaten with chutney or along with some types of fruits to reduce sourness.
	Oroxylum indicum Linn. Kurz. [Bignoniaceae]- Indian trumpet flower	*Maklong* [T]	*Samba* [S]	Bark and leaf [Raw] – (O/E),	Piles, Muscles/Joint pains, high Blood pressure and Epilepsy. Persons suffering from pile may sit on the warm boiled water of the plant bark kept in a tub. The plant bark should be peeled upwards with one breath. This process is continued till one gets relief. If a person suffers from muscle/ joint pains may take a bath with the boiled water of the bark or leaves. Or a small towel may be dipped in the boiled hot water of the leaves/ bark, and balms the joint pain parts.) The tender leaves are eaten as chutney with a belief that it reduces high Blood Pressure, and also by those who suffer from epilepsy.
	Amaranthus spinosus Linn. [Amaranthaceae]- Spiny amaranth	*Si-ake anbu Arintoipa* [H]	*Chengkruk Tingkhangpanbi* [S]	Leaf, Stem [Raw] – (E), (Eaten as culinary)	Extra tissue growth, Haemorrhoid. Little lime (limestone) is applied on the mother (first) extra tissue growth on a person whether on the hand or leg. Then, when the tissue becomes little soft, the tip of the matured stem (stalk) is smashed repeatedly against the extra tissue growth by pouring water above it. This is repeated by adding the lime and washing time to time till it bleeds. It is believed that if the mother tissue cell is completely uprooted the other tissues would miraculously fade away slowly. The Manipuris called it *sarik* because it grows in branches. It is not Keloid but looks alike. The tender leaves are also cook with dry fish and eaten as simple curry.
	Mimosa pudica Linn. [Fabaceae]- Sensitive plant/ (Touch-me-not)	*Ajakpi thingna* [H]	*Kangphai ikaithabi* [P]	Leaf, root [Raw] – (O)	Post-delivery Uterine pain. Women suffering from post-delivery uterine pain may take about 10-20ml of the liquid obtained by crushing the leaves and roots as tonic (or mixed with honey) before meal till one gets relief.
	Justicia adhatoda Linn. [Acanthaceae]- Adulsa/ Malabar nut	*Anha (Chikpa)* [Sh]	*Nongmankha* [P]	Leaf and flowers [Raw] – (O), (Eaten as culinary)	Cough and Cold, Rheumatism, Feverish, Muscular/ Joint pains, and Termination of Conception. For those who are suffering from slight cough and cold, and muscular/ joint pains few tender leaves is added in hot boiling water and is taken down after few minutes. About half/ full glass of the liquid is served as concoction (mixed with little salt or without) after each meal or atleast three times a day. About 50-60ml of the liquid extracted from the fresh leaves is drunk early in the morning in empty stomach by woman who wants to terminate early conception of a child. If required they may also have in the evening when the stomach is empty, for a period of 1 week or more.(This is considered a secret treatment).) The tender leaves (or along with flower) is served as simple culinary mixed with dry fish or beef. The leaves are added just few minutes before the curry is taken down. This sourness acts as body stimulant.
	Solamum virginuanum Linn. [Solanaceae]-	*Samtuk arikpa* [Sh]	*Leipungkhang* [S]	Fruit [Raw,] – (O), (Eaten as culinary)	Piles, Measles and Cough. The raw fruit is crushed and mixed with little honey and taken before each meal. Person with serious pile case that bleeds may take three times in a day, till it cures.

© 2010, IJPBA. All Rights Reserved.

	Yellow berried nightshade (small variety)				Babies and children suffering from measles may take the grind fresh fruits mixed with little honey time to time till it is completely expel out and cured. The young fruits are steamed and prepare as chutney or added in simple local dishes to prevent from cough and other ailments.
	Antidesma acidum Retz. [Phyllanthaceae]-	*Tuitrit* [Sh]	*Ching Yensin* [S]	Leaf [Raw] – (O), (Eaten as culinary)	Indigestion and Enhance Immune System. Person suffering from indigestion or wish to enhance immune system may drink half a glass of the boiled leaves as concoction anytime of the day (better after food). As health precautionary measure, the boiled leaves after squeezing out the sourness is served along with meat chutney.
	---	*Ching Pathikhom* [H]	*Ching pathikhom* [S]	Leaf/ whole plant [Raw] – (O), (Eaten as culinary)	Enhance Blood Purification. Person who wants to enhance blood purification may take about 10-20ml of the liquid obtained by crushing the leaves mixed with little honey before food for a week or more till satisfied. People who like its strong aroma adds in culinary as flavour.
	Hibiscus cannabinus Linn. [Malvaceae]- Green/ Red sorrel	*Anthui* [Sh]	*Sougree (ashinba)* [S]	Leaf and seed cover [Raw/ dried] – (O), (Eaten as culinary)	Jaundice, Enhance Immune Systems and Refreshes the body. If a person suffers from jaundice the fresh leave, or along with the outer covering of the seed is boiled in about 1 litre of water and half a glass is served as concoction twice a day anytime. Even the cooked leaves maybe eaten. The leaves and seed covers either fresh or dry is served as simple cooked curry or eaten along with chutney to enhance body stimulation or immune systems.
	Cynodon dactylon Pers. L. [Poaceae]- Doob/ Bermuda-grass	*Sanahuplang/ Tingthou* [H]	*Tingthou* [S]	Leaf [Raw] –(O), (Has religious significance)	Urinary Problem. If a person suffers from urinary problem, he may take about 2 tea spoonful of the crushed young tender leaves of *Tingthou* mixed with little water and honey early in the morning before food. It has religious significance too, and is connected to python mythology.
	Clerodendrum colebrookianum Linn. Moon. [Lamiaceae]- Bleeding heart	*Anphui (Sok noudon)* [Sh]	*Moirang Khanum* [S]	Leaf [Raw] – (O), (eaten as culinary)	Best for Hypertension and Controls high Blood Pressure. If a person suffers from hypertension, anxiety and high Blood Pressure may take a glass full of the fresh boiled leaves of *Clerodendrum* after each meal or anytime till the pressure reduces. But prolong or excess intake of this concoction is considered bad. The fresh leaves are also eaten as culinary in pork and beef curry time to time as delicacy.
	Rhus succedanea Linn. [Anacardiaceae]- Wax tree/ Wild varnish dry galls	*Hokma* [Sh]	*Heimang* [S]	Leaf and Fruits [Raw and dried] – (O)	Dysentery, Indigestion, Constipation and Body stimulant. Person suffering from dysentery may eat raw the tender leaves of *Hokma* mixed with little salt till it suspense, or About half/ full glass of the boiled dry fruit is mixed with little salt and sugar, and taken as concoction2/ 3 times a day till one gets relief. Person suffering from constipation may drink the grind seeds powder mixed in hot water along with little chilly and salt, which served as enema. It is also believe to enhance body stimulant if served time to time along with tea mixed with sugar.
	Ocimum sanctum [Labiateae]- Holy basil/ Krishna tulsi	*Tulsi* [H]	*Tulsi* [S]	Leaf [Raw] – (O), (eaten as culinary)	Cough, Bronchitis, Tonsillitis, Asthma. Person suffering from bronchitis, stomach problem, fever, cough, cold and congestion of lungs may take about 2 tea spoonful of the extracted leaves juice mixed with honey 3 times a day till it cures.
	Oxalis corniculata Linn. [Oxalidaceae]-	*Yensin arikpi* [H]	*Yensil* [P]	Leaf/ Whole plant [Raw] – (O)	Indigestion, Gastric and Blood purification. Person suffering from indigestion or gastric may take about 20-30ml of the extracted liquid of the plant before food by mixing with little water and honey or salt for a week or till it is cured. Person who wants to enhance blood purification may serve a glassful of the (half) boiled plant mixed with little salt as concoction for a week or time to time.
	Oenanthe javanica Blume DC [Apiaceae]-	*Komprek* [H]	*Kongprek* [S]	Leaf [Raw] – (O). (eaten as culinary)	Hypertension, Indigestion, Blood Pressure. Person suffering from hypertension and indigestion may take about half a glass of the extracted liquid of the crushed fresh leaves after mixing with little water before food or after as tonic (may add little honey if needed). The fresh leaves areal so served as culinary with dry fish or dhal curry, or eaten raw with chutney to reduce blood pressure.
	Musa sapientum Linn. [Musaceae]- Banana stem/	*Changlong* [Sh]	*Laphu and Laphu tharow* [P]	Stem and Flower [Raw, as concoction] – (O), (Eaten as culinary)	Chronic ulcer, Constipation, Diarrhoea and Lactation. Person who suffers from prolonged chronic ulcer may drink about half a glass (60ml) of the extracted liquid of the edible young fresh banana stem (*Pseudostem*) in empty stomach once a day it is give relief.

© 2010, IJPBA. All Rights Reserved.

	Pseudostem and flower				If a person suffers from constipation or want to improve lactation in child birth the banana flowers (bulb) may be eaten boiled or in raw form as chutney.) The young stems are especially cooked along with pork curry as delicacy.
	Nicotiana tabacum Linn. [Solanaceae]- Tobacco leaf	*Thankna bu* [Sh]	*Hidak Mana* [S]	Leaf [Raw or dried] – (E)	Acts as insecticides, Itchy, allergies, insects bite, leech bite. If an insect or leach bites a person the dried tobacco leaf is smashed/ chewed little and applied on itchy parts or around the allergies areas because it act as repellant.
	Polygonum posumba [Polygonaceae] - Knot grass	*Phakphai* [H]	*Mayang lomba* [S]	Leaf [Raw or dried] – (O)	Hypertension, Tonsils and Throat problems. Person suffering from hypertension, tonsillitis and other throat problems may take about 20-30ml of the fresh extract liquid of the leaf mixed with little honey as tonic for 3/ 4 days before food. Fresh leaves are added in fish chutney for its aroma and to enhance its taste.
	Plantago erosa Wallich. [Plantaginaceae]-	*Anpat* [H]	*Marok sabi* [S]	Leaf [Raw/ fresh] – (E)	Boil and Urinary problem. The matured leaf is heated on fire and applied on the boil part, time after time till it is cured. Those suffering from urinary disorder may eat fresh tender leaves as simple boiled curry.
	Psidium guajava Linn. [Myrtaceae]- Guava	*Bareitun* [T]	*Pongtol* [S]	Leaf and fruit [Raw and unripe fruit] – (O)	Dysentery and Diarrhoea. Person suffering from dysentery or diarrhea may eat some fresh tender leaves of guava, with salt if needed be. Even the unripe guava fruit is considered good for those suffering from dysentery since it reduces the problem.
	Parkia roxburghii A.DC Merr. G.Don [Mimosaceae/ Fabaceae]- Tree been (Monkey rice)	*Yongtak* [T]	*Yongchak* [S]	Seed [Dried] – (O), (Served as culinary)	Chronic ulcer, Dysentery, and Diarrhoea. To be served as concoction. Some amount of the dried outer cover of the long tree been seeds is boiled with water for about an hour. When it is cold, about half a glass of it is drank before food regularly for a week or more till it reduces the problems. The clumsy taste seems to have immediate effect as a good suspension. The soft part of the seed covering and seeds are eaten as curry or chutney by different preparation methods.
	Carica papaya [Caricaceae]- Papaya	*Awathapi* [Sh]	*Awathabi* [S]	Fruit [Raw] – (O/E),	Chronic ulcer, Gastritis and Dog bites. Person suffering from severe or mild chronic-ulcer may eat lots of papaya either ripe or unripe daily. If a person is bitten by a dog, he may eat lots of unripe papaya immediately, besides applying a slice of the outer green cover along with the pus on the bitten spot in order to reduce or extract the poison.) The unripe papaya is also eaten as boiled or mixed in chutney.
	Meyna laxiflora Robyns. [Rubiaceae]- Muyna/ Helu/ Alu	*Theipi* [T]	*Heibi* [S]	Leaf and dry fruit [Raw]- (O) (Has religious significance)	Blood purification. To enhance blood purification of a person the fresh leaves may be eaten as chutney time to time. If suffered from constipation the fruits may be eaten.) Chothe used the leaves in certain village religious ritualistic offerings.
	Zanthoxylum acanthopodium, [Rutaceae]-	*Singree* [Sh]	*Mukthrubi* [S]	Leaf and seed [Fresh leaf and dry seeds] – (O/E)	Cough, Ashma and Astritis. If suffered from cough, astritis and asthma the leaves are boiled and the steam is inhaled. And also, about half a glass of the boiled water may be served as concoction till it is cured. Some amount of fresh leaves is added as flavour in dog meat curry, considered better than the dry seeds.
	Prunus persica. Linn. [Rosaceae]- Peach	*Chumprei* [T]	*Chumbrei* [S]	Leaf [Fresh matured leaf] – (E)	Wounds and Worms, Anti-wormicide. If a wound is infested with worms or became septic the fresh matured leaves are crushed and the paste is applied on the wound (or the liquid may be squeezed into the wound before applied). This is usually used on animals like pig, cow and buffalo.
	Dactyloctenium aegyptian Linn.Willd. [Poaceae]- Egyptian crowfoot grass	*Phuiphung* [H]	*Pulei manbi* [S]	Root [Dried] –(O)	Asthma and Tonsillitis. Person suffering from asthma and tonsillitis may drink about 10-20ml of the liquid obtained from crushing the roots by mixing with little salt twice a day till it gets cured. The dried roots are added in beef and fish curry for its unique aroma.
	Cannabis sativa. [Cannabaceae]- True hemp	*Ganja* [H]	*Ganja* [S]	Leaf [Raw]- (O)	Diarrhoea, Dysentery and Lack of appetite, Depression. Person suffering from diarrhoea or dysentery may drink about 10-20ml of the liquid obtained by crushing the leaves once a day after food. Those suffering from lack of appetite may fry the leaves mixed with rice flour and taken little before food.) Person suffering from serious depression may smoke mildly the dry leaves as cigarette or in pipes.
	Ficus carica [Moraceae/ Agaonidae]- Hairy fig	*Theichang*[H]	*Heirik* [S]	Leaf [Raw]- (E)	Ringworm and Scabies. Person suffering from ringworm may rub the leaf on the ringworm area or the scabies part still it bleeds little. Later one may wash it with clean water and apply some oil

© 2010, IJPBA. All Rights Reserved.

					around it.
	Sacharum officinarum. [Poaceae/ Graminaceae]- Sugar cane	*Maanshu / Molshu* [Sh]	*Chu* [S]	Stem [Fresh juice] – (O)	Jaundice. Person suffering from jaundice may drink 1 or 2 glassful of freshly extracted sugar cane juice 3/4 times daily, especially in the morning for 2/3 weeks till one gets cured.
	Azadirachta indica A.Juss. [Meliaceae]- Neem	*Theichak* [T]	*Neem* [S]	Leaf and bark [Raw]- (E)	Cough, Skin diseases, Toothache. Person suffering from cough and other skin diseases may boiled the fresh leaves in a pot of water and bath everyday till it gets cured. The bark or twig is used in cleaning the teeth or for toothache.
	Citrus × limon Linn./ Burm [Rutaceae]- Lemon	*Champra* [Sh]	*Chambra* [S]	Fruit [Fresh]- (O)	Kidney (Stone) problem. Person suffering from kidney stone problem may drink the mixture of fresh ripen lemon juice with a local hen egg in empty stomach in the morning. The egg is dip into the glass filled with the lemon juice for about 12 hours. Then, the cellulose of the egg is removed slowly and the mixture is stirred well and drank in empty stomach early in the morning. Later after 20 minutes, one may drink lots of water before anything is taken. This process may be repeated and taken till one gets relief.
	Phyllanthus emblica [Labiateae] – Gooseberry	*Theichuraa / Shuru* [Sh]	*Heikru* [S]	Bark and fruit [Fresh/ Dry]- (O/E)	Cough and Cold, Sore Eye, Body stimulant. If a person feels weak or suffers from cough and cold the fresh fruits are eaten raw, or in dried or roosted form. For sore eyes few drops of the extracted juice may be poured into it till one gets cured.) The extracted liquid obtained from the crushed fresh bark is mixed with little water and taken for body stimulant.

Abbreviations: Linnaeus (Linn.), Herbs (H), Shrub (Sh), Tree (T) Climber (C); Seasonal (S), Perennial (P).

Other Significant Indigenous Medicine

***Thunderbolt Stone*:**
In case of fever and stomach ache the Chothe used about 10-20ml of this thunderbolt stone liquid obtained by rubbing against a hard stone mixed with little water. Sometimes a tea spoonful of honey may be added to the liquid. This thunderbolt stone has religious significance in connection with their mythical belief.

Fermented Rice Beer Residue:
In earlier days, if a person got sprained or fractured on his/ her leg or hand the fresh fermented rice beer residue (i.e. the fermented rice) is wrapped around the sprained or fractured part for 2/ 3 days. This process is repeated with the new fermented rice till it is cured. Sometimes, if the injury is very serious some fresh turmeric is crushed and mixed along with it, and then applied as paste on the injured part.

Saliva:
In case of insect bite, the Chothe applies spit (Saliva) on the bitten part. They also apply a small amount of lime (lime stone) in case of allergies on the specific body areas or on the lower tip of the ear. Some even apply the residue of burnt kerosene in the areas of itchiness or allergy.

Discussion on the Chothe Ethno-medicinal Plants
Among the Chothe about 55 varieties of ailments and diseases were found to be treated with the use of 47 ethno-medicinal plants identified, as shown in Table 1& 2. Some of them are like cough, fever, headache, cuts, wounds, tonsillitis, gastritis, dysentery, chronic ulcer, liver problem, jaundice, kidney and urinary problem, sprain, fractured of bones, Gonorrhoea, smallpox, measles, dog bite, snake bite, termination of conception, etc.

These Chothe ethno-medicinal plants are seen administered in two forms i.e. i) Orally/ Internally and ii) Externally. Firstly, it is administered orally in the form of - tonic or concoction or as culinary, especially by the fresh leaf or part of the plant. The administration is especially meant for the remedy of ailments like stomach ache, headache, chronic ulcer, gastritis, menstrual cycle, etc. Secondly, it is administered externally in the form of - ointment or paste or balm for the cases of cuts, burn, sprang, fracture, septic, etc.

Therefore, on the criteria of the administration forms - 29 plants are used orally and 11 externally, while 8 are used both orally as well as externally. However, based on the nature of these plant parts used it is found that about - 40 of these plant parts are used in raw or fresh forms, 3 in dry forms, and 4 in both ways. The medication method depends upon the types of illnesses or diseases, and also upon the expertise of the village priest or medicine man. Moreover, it depends on the nature, quality, and source of the extract obtained and used.

On the basis of the structural types, the Chothe indigenous medicinal plants may be divided into four categories as: (a) Herb, (b) Shrub, (c) Tree, and (d) Creeper. In this regard, there are 26 herb plants, 14 shrub plants, 6 trees, and 1 climber/ creeper. Out of these 47 identified plants, 39 are seasonal (S) while 8 plants are perennial (P) in nature (Table 2).
With regard to the 'parts of the plant used', it is found that out of 47ethno-medicinal plants identified the Chothe used the leaves of 30 plants, 7 types of stem, 5 whole plant (leaf and stem/ flower), 4 rhizome, 4 flower, 8 fruit, 3 seed, 1 bulb, 3 bark and 2 root parts.

© 2010, IJPBA. All Rights Reserved.

The Chothe traditional curing and healing methods is not limited only to human beings but also extends even to animal kingdoms like cows, buffaloes, pigs, horses, domestic fowls, dogs, etc. that suffered with certain illnesses, infection or injuries. The (Table 2) shows about 8 of the identified Chothe medicinal plants have religious significance. They are basically used to wade of the evil spirits from contacts, nightmares, bad dreams, sicknesses or diseases, and also in divinations and rituals of personal or family or village offerings.

The significant of all these Chothe ethno-medicinal plants and herbs is that whether it is by taste, look, smell, generally most of it has its own unique qualities. Some have pleasing or strong aromatic smell, some are attractive in looks, some has sweet flavour, some slightly bitter to extremely bitter in taste, some are little pungent while others has no taste at all. Some are available at the courtyard itself while others are grown in the thick forest areas only. Most of these plants bloom flowers for very short period, and are mostly seasonal plants. The non-eatable or poisonous plants are used especially for external purposes only.

The Chothe consumed these herbal plants as vegetables or prepares in simple traditional food items by simply boiling or simple cooked curry considering eatable and good for health, often with or without knowing the actual medicinal properties and values. They learnt that some plants leaf/ seed/ rhizome gives better taste when cooked with specific items like with dry fish or meat, or when mixed with certain appropriate ingredients. For example, the leaf of *Awaneem* (*Eryngium foetidum*) is added in fresh beef curry to enhance the taste and aroma, or *Singree* (*Zanthoxylum acanthopodium)* in fresh dog meat curry to reduce the foul smell. Their simple traditional local food habit is believed to have kept them healthy and strong, and free from various ailments in the past. It is also noticed that most of these plants are commonly eaten by the North-Eastern and Asian communities. However, nowadays the Chothe have changed their food habits from simple cooked to fried curry because of the impact of westernisation and acculturation with the plain peoples besides other influencing factors.

Value of Traditional Medicinal Knowledge

The invaluable knowledge of ethno-medicine of Chothe is usually retained by the village priest, local medicine men, village elders and grandparents. Apart from general medicinal plants, some medicinal plants are kept very confidential by them with a clear intention that the healing power may lose its charm. According to Pr. Roushi (87/M) a local medicine man of Ajouhu said that "In the past, if we freely share such valuable knowledge and its secret treatment methods to others it was strongly believed that the medicinal power reduces when treated on others again. Therefore, we hardly shared such invaluable knowledge for fear of losing its potency of the plants and its application". Similarly, N.S Jamir from the perspective of Naga tribes of Nagaland said that 'traditional knowledge is confined chiefly to the folk-healers and old-folks residing in villages. They believed the knowledge of the medicinal efficacy of plants are lost to posterity so they do not divulge the secret in fear that their professional supremacy will be at stake and the use of medicinal potency of the plants would be weakened or nullified [34]. Rajkumari (2013) also states that amongst the Chiru tribe of Manipur the traditional knowledge system is restricted to few identified persons in the community and the knowledge is generally inherited through the oral transfer and that generally in family lineage as there is no written document [35].

Hence, it is pertinent for such reasons that they did not openly disclose or freely share their secret knowledge and expertise to younger generations. But they claimed to share only to their most trusted person like his son or disciple whom they believed can continue practicing their secret tradition of healing and curing complicated sicknesses, even to the extent of killing a rival with magical-witchcraft. Roushi, further said that "In olden days, there used to be even competition amongst fellow village priests or local medicine men or with fellow neighbouring priests in their expertises with regards to deadly magical witchcraft of healing and curing practices, and psycho-warfare where fear was instil upon one another so that people did not simply advantages of one's skills and talents without prior approval".

CONCLUSION

The study on the ethno-medicinal treatment methods among the Chothe tribe reveals that out of 47 plants identified they used largely about 30 plants leaf than other parts. There are 31 different plant families out of 46 plant species identified (one unknown), in which a maximum of 4 plant species belong to *Zingiberaceae* family, while *Apiaceae, Asteraceae, Lamiceae* and *Poaceae* family has 3 species each, *Plantaginaceae, Solanaceae, Labiateae* and *Rutaceae* has 2 species each, and 22 species belongs to the rest of the plant family.

Often the medication of these plant parts is taken orally as concoction. Some are eaten as food items while others are used for external purposes only. Single plants are found using for multi-sicknesses. Most of the sicknesses treated are of common ailments and diseases like cough, fever, dysentery, etc. Often the medicinal plants used on patients are considered effective and satisfactory but because of seasonal base plants it becomes difficult for them to get when need arises.

© 2010, IJPBA. All Rights Reserved.

Depending upon the degree of illness, magical-religious ceremonies are also employed by the village priest in the healing and curing methods like some of the African communities. Medicinal plants for Diabetes, HIV, Hepatitis, etc. are unknown because such diseases were unknown to them before. But on experimental basis, some people are said to be using certain plants to treat these new diseases. It may be noted that besides these few plants identified, there are still several other plants which are known and unknown to the Chothe, and not recorded here.

Most importantly, changed in eco-system, deforestation, jhum farming, constrain of economy, Christianity, ignorance of people, lack of awareness of conservation and preservation, unsystematic collection and destruction of identified plants and its natural habitat, besides other factors have seriously posed a threat to the existing ethno-medicinal plants in North-East India.

ACKNOWLEDGEMENT

The authors are very thankful to the entire Chothe community, and especially to Mr. H. Thambaljao, Y. Tomalsing, Pr. Roushi, Mrs. Thambalhoi, Mrs. Atonsicha, Mrs. Nalini besides others for providing their invaluable ethno-medicinal knowledge and its practices. This paper would not have been made possible without their kindness to share it with us.

REFERENCES

1. North Eastern Council Vision (2020). 2012. Ministry of Development of North Eastern Region & North Eastern Council. (NER 2020 – NEC, Look East Policy.pdf). Vol.1. http://www.indianchamber.org/northeast.
2. Ningombam, DS; Deshworjit Singh and Potsangbam Kumar Singh. 2014. Ethnobotanical Study of *Phologacanthus thyrsiformis* Nees: A Conserved Medicinal Plant of Manipur, Northeast India', in *International Journal of Herbal Medicine.* Vol.1(5), pp. 10-14. www.florajournal.com, accessed on 24/ 04/14.
3. Singh, B.H; Singh, P.K., Singh, S.S and Elangbam, B. 1996. Indigenous bio-folklores and practices. Its role in biodiversity conservation in Manipur, in *Journal of Hill Research.* Vol.9(2), pp.359-362.
4. Chakraborty, Raja, Biplab De, N Devanna, Saikat Sen. 2012. North-East India an Ethnic Storehouse of Unexplored Medicinal Plants, in *Scholars Research Library; Journal of Natural Product and Plant Resource*. Vol.2 (1), pp.143-152. http://scholarsresearchlibrary.com/archive. html, accessed on 03-04-2014.
5. Pfoze, Neli Lokho; Yogendra Kumar, Bekington Myrboh. 2012. Survey and assessment of ethnomedicinal plants used in Senapati District of Manipur State, Northeast India, in *Phytopharmacology*. Vol.2(2), pp.285-311. www.phytopharmajournal.com, accessed on 02-09-2014.
6. Singh, V.K and Abrar M. Khan. 1989. Medicinal plants and folklores: A strategy towards conquest of human ailments, in *A glimpses in plant research*. Vol.9. New-Delhi: Today and Tomorrow's Printer & Publishers.
7. Singh, H.B and Arora, R.K. 1978. Wild edible plants of India, in *ICAR*. New Delhi.
8. Mao, AA; TM Hynniewta and M. Sanajaoba. 2009. Plant wealth of Northeast India with reference to ethnobotany, in *Indian Journal of Traditional Knowledge*. Vol.8 (1), Jan. pp. 96-103.
9. See note 6, Singh, V.K and Abrar M. Khan. 1989.
10. Buragohain, Jitu. 2011. Ethnomedicinal Plants Used by the ethnic Communities of Tinsukia District of Assam, India, in *Recent Research in Science and Technology*. Vol.3(9): 31-42.www.scholarjournals.org, accessed on 03-04-2014.
11. Hazarika, Ridip; Santoshkumar Singh Abujam and Bijoy Neog. 2012. Ethno Medicinal Studies of Common Plants of Assam and Manipur, in *International Journal of Pharmaceutical & Biological Archives.* Vol.3(4), pp:809-815. www.ijpba.info, accessed on 05-04-2014.
12. Shankar, Rama and M.S. Rawat. 2013. Conservation and cultivation of threatened and high valued medicinal plants in North East India, in *International Journal of Biodiversity and Conservation.* Vol.5(9), September, pp. 584-591. http://www.academicjournals.org/IJBC, accessed on 23/11/13.

© 2010, IJPBA. All Rights Reserved.

13. Shankar, R; Lavekar GS, Deb S, Sharma BK. 2012. Traditional healing practice and folk medicines used by Mishing community of North East India, in *J Ayurveda Integr Med*. Vol.3(3):124-9. http://www.jaim.in/text.asp
14. Khongsai; M Saikia, S P and Kayang H. 2014. Ethno-medicinal plants used by different tribes of Arunachal Pradesh, in *Indian Journal of Traditional Knowledge*. Vol.13(2), April, pp.368-376.
15. Ripunjoy, Sonowal. 2013. Indigenous Knowledge on the Utilization of Medicinal Plants by the Kachari Tribe of Dibrugarh District in Assam, North-East India, in *International Research Journal of Biological Sciences.* Vol. 2(4), April. 44-50. Available online at: www.isca.in
16. Das, Ajit Kumar; BK Dutta and GD Sharma. 2008. Medicinal plants used by different tribes of Cachar district, Assam, in *Indian Journal of Traditional Knowledge*. Vol.7(3), July, pp.446-454.
17. Basumatary, S; M Ahamed and SP Deka. 2004. Some medicinal plant leaves used by Boro (Tribal) people of Goalpara district, Assam, in *Natural Product Radiance* (*Explore)*. Vol. 3(2), March-April. http://nopr.niscair.res.in, accessed on 02-03-2014.
18. Jamir, NS; Lanusunep and Narola Pongener. 2012. Medico-herbal medicine practiced by the Naga tribes in the state of Nagaland (India), in *Indian Journal of Fundamental and Applied Life Sciences.* Vol.2 (2) April-June, pp.328-333. An Online International Journal, http://www.cibtech.org/jls.htm, accessed on 02-02-2014.
19. Singh, K Anurudh. 2010. Probable Agricultural Biodiversity Heritage Sites in India: V. The Garo, Khasi, and Jaintia Hills Region, in *Asian Agri-History*. Vol.14 (2), (133-156).
20. Jaiswal, Vidhan. 2010.Culture and ethnobotany of Jaintia tribal community of Meghalaya, Northeast India: A mini review, in *Indian Journal of Traditional Knowledge.* Vol.9(1), Jan. Pp.38-44.
21. Rajkumari, Ranjana; P.K. Singh, Ajit Kumar Das and B.K. Dutta. 2013. Ethnobotanical investigation of wild edible and medicinal plants used by the *Chiru* Tribe of Manipur, India, in *Pleione.* Vol.7(1), pp:167-174. http://www.pleione.info/, accessed on 02-09-2013.
22. See notes 5, Pfoze, Neli Lokho. 2012.
23. Prakash, N; MA Ansari, P Punitha and PK Sharma. 2014. Indigenous traditional knowledge and usage of folk bio-medicines among Rongmei tribe of Tamenglong district of Manipur, India, in Prakash (et al.), *African Journal of Traditional Complementary and Alternative Medicine*. Vol.11(3), pp.239-247. http://www.researchgate.net, accessed on 02-09-2013.
24. Yumnam, Rajesh Singh; CH. Onita Devi, Santosh Kumar Singh Abujamand D. Chetia. 2012. Study on the Ethnomedicinal System of Manipur, in *International Journal of Pharmaceutical & Biological Archives*. 3(3):587-591. www.ijpba.info
25. Singh, Senjam Jinus; V.K Batra, Sanjive Kumar Singh and Thiyam Jefferson Singh. 2012. Diversity of underutilized vegetable crops species in North-East India with special reference to Manipur: A review, in *NeBIO*. Vol.3 (2), June, pp.87-95. *www.nebio.in*, accessed on 02-03-2014.
26. Jain, Alka; S Roshnibala, PB Kanjilal, RS Singh and H Birkumar Singh. 2007. Aquatic/semi-aquatic plants used in herbal remedies in the wetlands of Manipur, Northeastern India, in *Indian Journal of Traditional Knowledge*. Vol.6 (2), April, pp.346-351.
27. Rai, Prabhat Kumar and H. Lalramnghinglova. 2010. Lesser known ethnomedicinal plants of Mizoram, NorthEast India: An Indo-Burma hotspot region, in *Journal of Medicinal Plants Research*. Vol.4 (13), 4 July, pp.1301-1307. http://www.academicjournals.org/jmpr, accessed on 02-03-2014.
28. Shakespeare, J. 1912. *The Lushai-Kuki clans*. Suman Lata, Cultural Publishing House, Delhi.
29. Ansari, SA. 1991. *Manipur: Tribal demography and Socio-economic Development.* Delhi: Anil Mittal.
30. Roy, R. C. 1936. 'Notes on the Chawte Kuki Clan', in *Man in India*. Vol.16, pp.135-155.
31. Greirson, George Abraham (Ed.). 1967. *Linguistic Survey of India*. Vol.III. Tibeto-

© 2010, IJPBA. All Rights Reserved.

Burman Family, Part-III (Specimens of the Kuki-Chin and Burma groups). Calcutta: Superintended of Government Printing), [reprinted, Delhi: Motilal Banarsidass].

32. Census of India 2011 (Population Census).
33. See note 29, Ansari, SA. 1991.
34. See notes 18, Jamir, NS. 2012.
35. See n

© 2010, IJPBA. All Rights Reserved.