

## Ethnomedical Practices among the Tai-Khamyangs of Assam, India

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**ABSTRACT** The present study briefly reports the indigenous ethnomedical knowledge of the Tai-Khamyangs of Sivasagar district, Assam. Data was collected in the year 2008 through extensive personal interviews, concrete case studies and participant observation. The Khamyang ethnomedical system constitutes herbal medicine as well as magico-religious-spiritual practices. Various locally available medicinal plants are used to cure a host of diseases/ailments. More than one medicinal plant species are used more frequently than the use of a single species for remedy preparations. Plant species are identified with the help of relevant and standard literatures and are presented along with their scientific names, family, English and vernacular names, part/parts used, methods of preparation, and modes of administration in the target disease. The present study was conducted for understanding floral and faunal resources and their utilization pattern as ethno-medicine by the Khamyangs in their indigenous knowledge system. The study also reveals the belief among the people upon certain malevolent super natural agencies as source of disease causation and the use of magico-religious-spiritual practices as curative and preventive measure.

### INTRODUCTION

The practice of ethnomedicine by different ethnic groups to cure diseases and ailments bear a testimony to indigenous knowledge system. Such knowledge is transmitted orally from generation to generation and is seldom, if ever, documented. According to Foster and Anderson (1978), "ethnomedicine denotes the totality of health knowledge, values, beliefs, skills and practices of indigenous people, including all the clinical and non-clinical activities that relate to their health needs". Hughes (1968) refers ethnomedicine as "those beliefs and practices relating to disease which are the products of indigenous cultural development and are not explicitly derived from the conceptual framework of modern medicine". Medicinal plants and, to a lesser but important extent, animal products form the *materia medica* of the ethnomedicinal remedies. A number of ethnomedicinal studies have been undertaken by different workers from different parts of north-east India. Among them the studies by Jain and Borthakur (1980), Medhi (1995), Dutta and Nath (1999), Sharma Thakur (1999), Medhi and Paul (2004), Bhardwaj et al. (2005), Das

and Tag (2006), Sajem and Gosai (2006), Buragohain and Konwar (2007), Das et al. (2008), Kalita and Bora (2008), and Saikia et al. (2010) are to name a few. However, information on indigenous knowledge of ethnomedicine among the immigrant tribes of Assam belonging to the great Tai-stock is very scanty. The Tai people possess the knowledge of a number of herbal remedies which are prepared from a wide range of plant species. Their accumulated wealth of plant based medicinal knowledge is mostly passed through oral tradition and some through Thai Buddhist literatures from one generation to another. Some remedies are reported to have high ethno-medicinal value against some very important diseases. Their knowledge of magico-religious and spiritual treatment of diseases and ailments is equally acknowledged by many. They have developed such ethnomedical practices in conjunction with their age old interaction with the nature. Therefore, the present paper is an attempt to document the same among the Tai-Khamyangs of Sivasagar district in Assam.

### THE STUDY POPULATION

#### The Tai-Khamyangs

The Tai-Khamyangs or Khamjangs who are popularly known as Shyams are a section of the great Tai-stock. 'Tai' is a generic name denoting a great branch of the Mongoloid population

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of Asia. Grierson (1966) states that “Its members are to be found from Assam to far into the Chinese province of Kwangsi and from Bangkok to the interior of Yunan”. The different Tai-groups of people who migrated to Assam from south-west China and north Myanmar in the historical past are the Khamyangs, the Khamtis, the Phakes, the Turungs, the Aitons and the Ahoms. They belong to the Siamese–Chinese linguistic family. Today, the Tai - Khamyangs, one such immigrant tribe are a distinct ethnic group of Assam having their own unique culture and tradition. They are a scheduled tribe (Hills; *Mann-Tai* speaking group) and are concentrated in the districts of Jorhat, Sivasagar and Tinsukia in Assam. According to Sarmah (2001), they are small in number with a total population of around 3000 individuals. At present, Tai language is not in use among the people. They speak Assamese and use Assamese script. But, many Tai terms are still retained in their vocabulary. The Khamyangs are patriarchal by nature. Their society is divided into 9 exogamous clans (*Phan*) viz. *Thaomung*, *Chaohai*, *Chaolun*, *Chaolek*, *Tungkhang*, *Wailong*, *Panngyok*, *Phaalik*, and *Chaosong*. Agriculture is their main occupation. They are traditionally pile dwellers. By religion they are Buddhist of the Theravada or Hinayana form. Every village possesses a monastery (*Vihar*) headed by a Monk (*Bhante*). *Mai-Ko-Chun-Fai*, *Poi-Sang-Ken*, *Poi-Nen-Hoke*, *Poi-Kathin*, *Poi-Chang-Kham*, *Poi-Leng*, etc. are some of the important religious ceremonies of the tribe.

#### MATERIAL AND METHOD

Two very old Khamyang villages namely, ‘*Disangpani Shyam village*’ and ‘*Cholapather Shyam village*’ under the Charaideo sub-division in Sivasagar district of Assam were selected to carry out the study. Extensive fieldwork was carried out in two slots in the months of July and August in the year 2008. Information about ethnomedicinal uses of different medicinal herbs/plants, their vernacular names, part/parts used, different animal parts used, methods of preparation, dose regimen and route of administration and application in the treatment of a particular disease/diseases were recorded. For the same, extensive personal interviews and in-depth discussions were held with the traditional practitioners in order to enumerate

their ethnomedicinal practices. Besides, participant observation method was followed while visiting homestead plantations of the traditional practitioners and surrounding plant resources to observe and collect plant species reported to treat ailments and to record the methods of preparing different medicines. Plant species were identified with the help of relevant and standard literatures (Dutta 1985, 1996; Satyavati et al. 1987; Gupta and Sharma 2007, 2008).

#### RESULTS

The Khamyang ethnomedicinal knowledge can be broadly divided into two type’s viz. (i) Herbal or Material medicine that is treatment of diseases/ailments caused by pathogens and natural agencies, and (ii) Magico–religious and spiritual, that is, treatment of diseases/ailments caused by supernatural agencies. In the study area there are a total of 8 medicine men and 3 medicine women who practice both herbal and magico-religious-spiritual means of treatment.

#### Herbal or Material Medicine

Some of the herbal medicines used to cure diseases/ailments are listed below (Scientific names are followed by family, English and vernacular names respectively):

#### *Bone Fracture (Har Bhoga jura loguwa)*

Paste of *Cissus quadrangularis* Linn. (Vitaceae; Edible stemmed vine; *Harjura*) leaves-100 pieces, *Zingiber perpureum* (Zingiberaceae; Cassumunar ginger; *Moran ada*) rhizome-50 gms and *Dendrothoe falcate* L. (Loranthaceae; Bird’s eye; *Roghumola lota*) crepper-25 gms for 1 dose is taken in a banana leaf and tied over the fractured area for 8-10 hours daily for 1 week. Finely cut bamboo sticks are used to hold the medicine and the affected area intact. The medicine is again repeated after a gap of 3-4 days depending on the intensity of the fracture.

In case, if the fracture is followed by internal bleeding and blood clotting then about 200 gms of *Cissus quadrangularis* (Vitaceae; Edible stemmed vine; *Harjura*) root, 100 gms of *Zingiber perpureum* (Zingiberaceae; Cassumunar ginger; *Moran ada*) rhizome and 25 gms of *Piper nigrum* Linn. (Piperaceae; Black pep-

per; *Jaluk*) seeds are grinded properly and boiled in 1 liter of water. The juice is filtered after cooling and administered 3 cups daily.

#### **Bronchial Asthma (*Ha-pani*)**

Juice extract of *Ocimum americanum* Linn. (Lamiaceae; Rossary Basil; *Kola Tulokhi*) and *Dracaena angustifolia* Roxb. (Liliaceae; Dragon's tree; *Jomlakhuti*) leaves is administered 3 times a day.

#### **Burn Injuries (*Juei pura*)**

Resin and crushed leaf paste of *Aloe vera* Linn. (Liliaceae; Barbados Aloe / Medicine Aloe; *Chalkuwari*) is applied on the affected area.

#### **Carbuncle (*Anduria gha*)**

Paste of *Centella asiatica* (Umbeliferae; Indian Pennywort; *Manimuni*) and *Bonnaya reptans* Spreng. (Scrophulariaceae; *Kachidoria*) leaves and tender leaf buds of *Psidium guajava* Linn. (Myrtaceae; Guava; *Modhuri*) mixed with little amount of *Nicotiana tabacum* Linn. (Solanaceae; Common tobacco; *Dhopat*) is warped over the affected area with a banana leaf and tied with a soft cloth for the whole night. In case, if the abscess catches infection, root paste of *Tragia involucrate* Linn. (Urticaceae; Nettle; *Chorat*) is dipped in about 100 gms of cold water for 1 hour. The water is filtered; salt is added according to taste and taken once for two days.

#### **Cough (*Kah*)**

Crushed leaves paste of *Ocimum sanctum* Linn. (Labiatae; Sacred Basil; *Tulokhi*) and rhizome of *Zingiber officinale* Rosc. (Zingiberaceae; Ginger; *Ada*) is mixed with honey and taken orally.

#### **Dog Bite**

Root juice of *Calamus viminalis* (Arecaceae; Cane; *Jati Bet*) is mixed with cow's milk; sugar is added and administered in empty stomach in the morning for 3 days.

#### **Dysentery (*Grohoni*)**

Dried root of *Garcinia pedunculata* Roxb. (Guttiferae; *Bor-Thekera*), peel of *Punica gra-*

*natum* Linn. (Punicaceae; Pomgranate; *Dalim*) and 1 dried *Terminalia chebula* (Combretaceae; Chebulic Myrobalans; *Hilikha*) is crushed and grinded properly and dipped in hot water for 10-15 minutes. Thereafter, the mixture is taken out and eaten at any time of the day for 3-4 days.

#### **Eczema (*Besu*)**

Root and leaf paste of *Vitex negundo* Linn. (Verbenaceae; Chaste tree / Indian privet; *Pochatia*) is applied over the infected area.

#### **Epistaxis (*Aewa bhoga*)**

Paste of *Leucas aspera* (Lamiaceae; Tumbe; *Duron bon*) leaves and *Cynodon dactylon*. (L.) Pers. (Gramineae; Bermuda grass; *Dubori bon*) – whole plant is held over the nose and the strong smell is inhaled.

#### **Eye Infection**

Flower juice of *Rosa damascene* Mill. (Rosaceae; Damask Rose; *Ronga-Gulap*) along with saliva is applied early in the morning to reduce reddening due to infection.

#### **Fever with Cold**

A soup called *Jall* is prepared by boiling the meat of a young domestic fowl *Gallus domesticus* (Aves; *Kukura*) in water and adding the following plant parts as condiments - rhizome of *Zingiber officinale* (Zingiberaceae; Ginger; *Ada*), seeds of *Piper nigrum* Linn (Piperaceae; Black pepper; *Jaluk*) and *Brassica campestris* (Brassicaceae; Mustard; *Sarioh*), Leaves of *Eryngium foetidum* Linn. (Umbeliferae; Fitweed; *Man dhanian*), bulb of *Allium cepa* (Liliaceae; Onion; *Piyaz*) and clove of *Allium sativum* L. (Liliaceae; Garlic; *Noharu*). Generally taken before meal. Leaf juice of *Mentha spicata* Linn. (Labiatae; Spearmint; *Poduna*) mixed with water is taken orally. Crushed leaf paste of *Aloe vera* Linn. (Liliaceae; Barbados Aloe / Medicine Aloe; *Chalkuwari*) is applied on the forehead.

#### **Gastric**

Paste of *Azadirachita indica* A. Juss. (Meliaceae; Margosa tree; *Moha-neem*) and *Adhatoda vasica* Nees. (Acanthaceae; Basaka;

*Tita bahak*) leaves, *Hydrocotyle rotundifolia* Roxb. (Umbelliferae; *Horu Manimuni*) aerial part, *Curcuma amada* Roxb. (Zingiberaceae; Mango Ginger; *Aam ada*) Rhizome and 1 *Emblica officinalis* Gaerth (Euphorbiaceae; Emblic Myrobalans; *Amlokhi*) are mixed with powdered stock of *Caesalpinia crista* Linn. (Leguminosae; Bonduc nut; *Leta guti*) seed kernel and *Myristica fragrans* Houtt. (Myristicaceae; Nutmeg; *Jaiphal*), *Abrus precatorius* Linn. (Leguminosae; Crab's eye / Indian liquorice; *Latummoni*), *Nigella sativa* L. (Ranunculaceae; Black cumin; *Kola jira*), *Papaver somniferum* Linn. (Papaveraceae; Opium / Poppy seeds; *Afu guti*), *Elettaria cardamomum* (L) (Zingiberaceae; Cardamon; *Elachi*) seeds, and *Syzygium aromaticum* (L) (Leguminosae; Clove; *Laung*) Flower clove and *Piper longum* L. (Piperaceae, Long pepper; *Pipali*) fruits. A small amount of root oleo gum resin of *Ferula assafoetida* L. (Umbelliferae; Asafoetida; *Hing*) and dried bile of *Hystrix indica* (Mammal; Porkupine; *Ketela Pohu*) are added. Small tablets are prepared from the mixture which is dried over the fire place for 3-4 days. 1 tablet is taken orally before meal in the morning, afternoon and at night.

### Gynecological Disorders

Root paste of *Solanum indicum* (Solanaceae; Indian night-shade; *Tita-bhekuri*) mixed with little amount of *Piper nigrum* L. (Piperaceae, Black pepper; *Jaluk*) seed powder is prescribed three times a day in irregular menstruation. Juice extracts of *Clerodendron infortunatum* L. (Verbenaceae; *Dhopat-tita*) root and *Loranthus longiflorus* Desr. (Loranthaceae; *Loranthus Roghu-Mola*) leaf is administered two times a day in empty stomach in dysmenorrhoea (painful menstruation). Flower juice of *Hibiscus rosa-sinensis* Linn. (Malvaceae; China rose; *Ronga Joba*) is given in delayed puberty.

### High Blood Pressure

4-5 cloves of *Allium sativum* L. (Liliaceae; Garlic; *Noharu*) is taken regularly with meal. Also eaten with water in the morning. Tender leaves of *Clerodendrum colebrookianum* Walp. (Verbenaceae; Glory flower; *Nefafu*) with 3-4 pieces of garlic wrapped in a banana leaf are

roasted in the fire and eaten empty stomach. Leaves paste is also applied on the head.

### Jaundice (*Har Bemar*)

Fruit juice of *Magnifera indica* Linn. (Anacardiaceae; Mango; *Aam*) is taken orally with milk twice a day. Leaf juice of *Bryophyllum pinnatum* Kuntz. (Crassulaceae; Sprout leaf plant; *Dooportenga*) is administered orally. Fresh fruits of *Averrhoa carambola* Linn. (Oxalidaceae; Carambola; *Kordoi*) are crushed to extract the juice and taken with water. Leaf paste of *Cajanus cajan* (Leguminosae; Pigeon pea; *Rohor dal*) is dipped in 0.250 lit. of water for 1 hour. The infusion is then filtered and taken orally in empty stomach early in the morning.

### Melina

The following plant parts – tree bark of *Mangifera indica* L. (Anacardiaceae, Mango; *Aam*), *Alstonia scholaris* R. Br. (Apocynaceae; Devil's tree; *Satiana Goss*), and *Croton joufra* Roxb. (Euphorbiaceae; *Goss Mahoti*); roots of *Solanum indicum* (Solanaceae; Indian night-shade; *Tita-bhekuri*), *Solanum torvum* Sw. (Solanaceae; Devil's fig; *Hati-bhekuri*), *Clerodendrum colebrookianum* Walp. (Verbenaceae; *Nefafu*), *Solanum spirale* Roxb. (Solanaceae; *Tita Kochi*), leaves of *Azadirachita indica* A. Juss. (Meliaceae; Margosa tree; *Mohaneem*) and *Wedelia calendulaceae* Less. (Compositae; Traling eclipta; *Bhimraj*); seeds of *Piper nigrum* Linn (Piperaceae; Black pepper; *Jaluk*) - 25 nos., *Abrus precatorius* L. (Fabaceae; Crab's eye/Indian liquorice; *Latummoni*) - 7 nos., *Entada scandens* Benth. (Leguminosae; Nicker bean; *Ghila*) - 1 no., *Caesalpinia crista* Linn. (Leguminosae; Bonduc nut; *Leta guti*) - 2 nos.; 3 nos. of *Terminalia chebula* (Combretaceae; Chebulic Myrobalans; *Hilikha*); 33 nos. of *Oryza sativa* (rice) grains; dried peel of *Citrus reticulata* (Rutaceae; Orange; *Kamola tenga*); small amount of *Curcuma domestica* Loir. (Zingiberaceae; Common turmeric; *Kesa Halodhi*) tuber; and stem of *Cucurbita moschata* Duch. (Cucurbitaceae; Sweet gourd; *Ronga-lau*) are cut into fine small pieces and mixed with a little amount of *Hystrix indica* (Mammal; Porcupine; *Ketela Pohu*) and *Moschus moschiferus* (Mammal; Musk deer; *Kusturi*) bile. It is then

grinded properly to make a paste, salt is added. Small tablets are prepared from the paste which is dried in the sun or over the fire place for 3-4 days. Three tablets are administered orally in a day, that is in the morning, afternoon and at night for ten days.

#### **Piles (Kesumuria)**

Tree barks of *Emblica officinalis* Gaerth. (Euphorbiaceae; Emblic Myrobalans; *Amlokhi*) and *Spondias pinnata* Kurz. (Anacardiaceae; Hog plum; *Amora*) are finely cut into small pieces and then boiled in water. The patient is allowed to drink the water till relief. Root of *Nymphaea rubra* Roxb. (Nymphaeaceae; Red water lily; *Ronga Podum*) is dried over the fire-place and grinded to make powder. Powdered rootstock is applied in the diseased area for 6-7 days. Resin of *Artocarpus lakoocha* Roxb. (Moraceae; Lakoocha; *Dohachali*) is mixed with crushed leaves of *Centella asiatica* (Umbeliferae; Indian Pennywort; *Manimuni*) and meat of fire roasted *Channa punctatus* (Pices; *Goroi* fish). Three tablets are prepared from the mixture and are taken one by one at any time of the day.

#### **Pneumonia**

3-4 tender leaf buds and about 1 inch tree bark of *Dillenia indica* Linn. (Dilleniaceae; Elephant fruit; *Ou-tenga*) and about 1 inch tree bark of *Litsea citrate* Blume. (Lauraceae; *Mejangkori*) are mixed together and grinded with a little amount of water. It is then squeezed to get the juice, which is administered twice a day (Morning and Evening) till condition improves. Root barks of *Clerodendrum colebrookianum* Walp. (Verbenaceae; *Nefafu*) and *Solanum torvum* Sw. (Solanaceae; *Hatibhekuri*), 29 nos. of *Piper nigrum* Linn (Piperaceae; Black pepper; *Jaluk*) and small amount of *Croton jofra* Roxb. (Euphorbiaceae; *Gossmahoti*) bark and bile of *Hystrix indica* (Mammal; Porkupine; *Ketela Pohu*) are cut into fine pieces and boiled in water. The decoction is filtered; salt is added according to taste and administered orally three times a day, that is in the morning, afternoon and at night.

#### **Retention of Urine**

3 tablets made from the leaf paste of *Pouzolzia zeylanicia* Benn. (Urticaceae; Grace-

ful pouzolzs bush; *Borali bhukua*) mixed with 3 *Piper nigrum* Linn. (Piperaceae; Black pepper; *Jaluk*) are given once a day in burning sensation during urination and during unclear urination.

#### **Tongue Ailment (Mesco)**

Tender leaf buds *Psidium guajava* Linn. (Myrtaceae; Guava; *Modhuri*) are crushed to make a paste and applied on the affected area.

#### **Magico-religious and Spiritual Practices**

There are multiple diseases/ailments that are believed to be inflicted by supernatural agencies, that is by malevolent spirits. These diseases/ailments may be the same as mentioned above or they may be associated with other symptoms and complications. The traditional practitioners are well-versed in identifying the cause of the affliction (s) and thus provide appropriate treatment. Sometimes for some diseases and complications, herbal medicine is followed along with magico-religious and supernatural practices. For the same, use of certain plant and animal part/s accompanied with enchanting of *mantras* are seen. The traditional practitioners refrained from disclosing the meaning and secrets of the *mantras* when asked. Moreover, the visitors are not allowed to see the texts containing the sacred *mantras*. On the other hand, at the onset of the diseases/ailments the people along with taking recourse to the medicines offered by the practitioners also try to invoke the supernatural or appease the spirits that are supposed to have caused the ailments and complications. Besides, the household deity (*Giri dangoria*) and the village deity (*Phi-Su-Mong*) are annually worshipped in order to escape their wrath in the form of diseases and ailments. The magico-religious or supernatural causations may again be divided into 6 types:

**1. Influence of Evil Spirit (Bhut/Khetor loga):** The Khamyangs generally believe that the world is full of various types of malevolent spirits having abode in places like trees, air, water, deserted homes, by the road side, etc. Some of them are very vindictive and harm the people on the slightest pretext. They may be highly annoyed if they are disturbed by someone passing by their abode and inadvertently spitting, urinating or attending to nature's call at the abode. The wrath of the evil spirit is gen-

erally manifested by the incidences of high fever, miscarriages and infertility of females, bad dreaming, bed wetting by children, insanity and unusual behaviour, severe headache, etc. In such cases, the traditional medicine man identifies the responsible spirit through divination (*Aang* or *Mongol suwa*) and sometimes by the symptoms of the ailing person. He then administers appropriate magico-religious curative measures by providing medicines, threads, amulets or mustard oil treated with magical hymns. The yellow and red coloured thread is tied to the upper arm or neck or hip of the patient. Generally, the amulets are made of different plant parts and with items such as teeth of fox, horn of deer, *Kori* (a kind of sea Snail) and some unidentified objects, some of which are said to be over 100 years old.

A highly fierce spirit called *Mota Khetor* is believed to be responsible for miscarriages and female sterility. It is said that the spirit kills the foetus in the womb of the mother within 2-3 months of pregnancy. Here, the medicine man must be married and having children. Otherwise the spirit would take revenge upon the wife of the medicine man himself. Moreover, as precaution the patient too is kept uninformed about the curative measure. The ritual of medicine preparation begins early in the morning with the medicine man cooking a small amount of overnight water dipped *Phaseolus mungo* Linn. (Leguminosae, Green gram; *Mogu-Mah*) with finely cut meat of *Pheretima posthuma* (Oligochaeta; *Bunda Kesu*). Salt is added according to taste. At the same time the medicine man cleans the place of worship, lights an earthen lamp and prays to god. After the recipe is cooked he chants some *mantras* and the medicine is taken out on a tender banana leaf. The patient is called upon and allowed to sit on a bamboo mat with a tender banana leaf on it. The medicine is administered with great respect. The medicine man informed that the spirit disturbs him on that very night as he can hear someone calling his name or some unusual sounds at midnight.

In case of bad dreaming, bed wetting by children, insanity and unusual behaviour, severe headache, etc. amulets are prepared which contains finely cut pieces of *Calotropis gigantean* (L) R. Br. (Asclepiadaceae; Crown plant; *Akon*) tender leaf buds, roots of *Solanum indicum* (Solanaceae; Indian night-shade; *Tita-bhekuri*)

and *Desmodium laxiflorum* DC. (Leguminosae; Hoary trick trefoil; *Bionisapota*) and inflorescence of *Musa sapientum* Linn. (Musaceae; *Bhim kol*). It is then treated with enchanting of *mantras*. A thick cord made out of red, white and black colour strings is used to tie the amulet around the patient's neck, on the left hand above the elbow or around the waist.

### 2. Influence of Evil Eyes (*Mukh-loga*):

There is a belief among the people that some individuals possess certain evil powers. Hence, if such persons looks at someone or passes comments with evil motives, it may cause illness in the form of indigestion, incessant vomiting, diarrhea, fever, etc. Generally, small children easily become the victims of such persons. Here the patient is administered water treated with magical hymns by the medicine men. This practice is called *Pani Jora*. The patient drinks half of the water and the rest is applied from head to toe in the downward direction.

### 3. Sorcery or Black Magic (*Ban mora*):

It is believed that some ailments (identical to that of a pathogenically caused disease) like jaundice, diarrhea, dysentery, stomach ache, vomiting, chest-pain, paralysis, epilepsy, etc. are caused by magical powers. They believe that through sorcery or black magic, diseases/ailments with unbearable trauma are inflicted in a person that can be fatal even. Sometimes a person is given to eat some edible item like a piece of meat treated with black magic, which remains undigested and causes incurable ailment which leads to loss of body weight, blood vomiting, etc. In such cases medical treatment becomes useless and only the counter magico-religious-spiritual curative treatments performed by the traditional practitioner's cures the ailing person of the sufferings, otherwise it may prove to be fatal. The medicine men after performing divination or by identifying the symptoms ask the patient to hold a special stone in his/her hand for some time. At the same time the medicine men recites some magico-spiritual hymns in front of the patient. It is said that the stone becomes red hot as it cures the ailment. On some occasions, the medicine man also administers some herbal medicine which makes the magically treated food item to come out of the stomach of the ailing person through vomiting. On the other hand, some magically treated objects like a piece of bone, amulet, cloth or hair, etc. is

placed in contact with the targeted person by hiding it in the roof of the house, in the ground under the raised floor of the house and sometimes under the bed of the person. Here too, the ailments caused are neutralized by the counter magico-religious-spiritual curative treatments performed by the traditional practitioners' who find out or dig out the magical object.

In case of jaundice 7 leaves of *Colocasia esculenta* (L) Schott. (Araceae; Taru yam; *Kochu*) are taken and made into a cone shape. 100 gms of mustard oil and equal amount of water is taken in it. Then the medicine man holds the preparation at the back of the patient and chants *mantras* while mixing the mustard oil and water with a bundle of 7 *Cynodon dactylon*. (L.) Pers. (Gramineae; Bermuda grass; *Dubori bon*) leaves tied together. It is said that the mixture of mustard oil and water becomes yellowish in colour like an egg yolk indicating that the power of the *mantras* have pulled out the virus responsible for the disease. The said practice is performed early in the morning and repeated till relief. Paralysis and epilepsy is treated by chanting some spiritual hymns and simultaneously beating the patient gently with a few bunches of wild fern. In addition, the affected body part is massaged with mustard oil treated with magical hymns.

**4. Curse for a Sin/Fault Committed (*Dukh loga*):** Sometimes ailments like allergy, chickenpox, paralysis, etc. are believed to be caused as a punishment from the almighty or by some deities for a sin/fault committed by the individual himself/herself or by his/her family members. For allergy, one medicine woman takes a glass of water and chants *mantras* by dipping the index finger of her right hand in it. The afflicted person is allowed to drink 3 sips of water and the rest is rubbed over the diseased area. Besides, certain elaborate religious rituals are performed that includes giving offerings to the deities, arranging feast for the *Bhante* and taking his blessings, etc. in order to get relief from the sufferings.

**5. Influence of Household Deity (*Giri dangoria*):** In order to ensure the overall welfare of a household the inmates of a family worship their departed ancestors annually in the month of April. But sometimes, it is believed that some inadvertent omissions and commissions in the worship may annoy the ancestors and invite their wrath. This may result in any

type of ailment to a member or to all the members of the family. In such cases the affected family seeks the service of the monk or someone else in the village who is expert in divination. Then the appropriate curative measures are undertaken which consists of performing religious rituals and making necessary offerings like food stuffs and sacrificing a chicken in the name of the ancestors.

**6. Influence of the Village Deity (*Phi-Su-Mong*):** *Phi-Su-Mong* is the guardian spirit of the village who is worshiped on the following day or after 7 days of *Poi-Sang-Ken* (Festival of bathing the Buddha images) in the month of April. It is generally believed that if this spirit is not worshiped properly there might be an outbreak of epidemic and unnatural deaths. For the purpose, the Khamyangs construct a pyramid like structure (*Chaitya*) of sand having eight round steps and a wooden crown on its top at the main entrance of the village. Every step of the *Chaitya* is decorated with coloured paper flags called *Ten Khon*. A bamboo fence is erected encircling the *Chaitya*. The villagers offer flowers, puffed rice and lights candles and incense sticks at the *Chaitya*. The *Bhante* administers *Pancha Sheel* (5 precepts of Buddhism) and *Asta Sheel* (8 precepts of Buddhism) to the villagers and prays for the welfare of the village. Next day, in the monastery an elevated bamboo platform is constructed where a basket full of sand is placed. On it, a pot of water, leaves of mango tree, *Dubori bon* (*Cynodon dactylon* L. Pers.; Cyperaceae) and a bundle of thread are kept. By touching the thread the *Bhante* recites some holy verses and hymns. All the villagers collect a small portion of the above items which are believed to have possessed magical powers during the ritual for protecting the village and the households as well. The sand and water is sprinkled around the household compound to ensure safety from evil spirits. A piece of the holy thread is also placed horizontally at the main entrance of the village in order to prevent evil forces from entering the village.

## DISCUSSION

The present study proves that the Tai-Khamyang tribe is rich in ethno-medicinal knowledge. Based on such valuable age-old tradition, the Khamyang indigenous medical practitioners are considered as one of the most

knowledgeable and expert service providers in the field of ethnomedicine in this part of Assam. The Khamyangs have immense faith in their indigenous system of medicine which is largely based on medicinal plants coupled with traditional culture, beliefs and superstition. The elderly practitioners are the principal knowledge holders and are the primary means of knowledge transmission. The knowledge and wisdom that the elder practitioners possess are those which have been derived through a lifetime of experiences in treating patients. Normally the elders pass on the ethno-medicinal knowledge to their children/s or grand children/s. But, sometimes a close relative or fellow villager also comes up voluntarily to acquire the ethnomedicinal knowledge from the elderly practitioners.

The bulk of the drugs used in the indigenous medicine are of plant origin. These drugs are prepared in definite proportions from different plant parts with the addition of animal parts in some cases. The plant parts most used are leaves, root, stem, seeds, fruits, the complete aerial parts, the whole plant, barks of both root and stem and flowers. In most of the times fresh plant parts are used for the preparation of medicine. It is seen that, different plant parts and sometimes the whole plant is either grinded or crushed to make a paste and to extract the juice as medicine. Medicinal plants are collected from the surrounding plant resources like forests and are also grown by the medicine men in their homestead plantations. Depending upon the ailment the medicine is administered raw in the form of tablets and juice when consumed internally, and as ointments, powder or raw paste when applied externally. Animal parts like dried bile of *Hystrix indica* and *Moschus moschiferus* and meat of *Gallus domesticus*, *Pheretima posthuma* and *Channa punctatus* are also used as medicine. The use of *Cissus quadrangularis* Linn. reported in the study for the treatment of bone fracture is found in reputed medical literatures (Udupa and Prasad 1964; Chopra et al. 1975) thus indicating the authenticity of its therapeutic claims.

Most of the diseases mentioned above have a local name which the traditional practitioners are very well familiar with. They detect and diagnose diseases based on general observations of the patient, the symptoms told by the patients as well as based on their personal experience in treating human ailments. It was found that they

possessed detailed and specific descriptions of the disease characteristics and associated symptomatology. These diagnostic methods yield information that helps to determine the syndrome and constitution to be treated. In general the traditional practitioners have the expertise to treat most of the diseases/ailments mentioned above, but some of them are specialized in specific diseases/ailments. For example, bone fracture healing and the elaborate magico-religious-spiritual treatment for miscarriages and female sterility is practised by only two medicine men. Since the knowledge of use of medicinal plants and their properties was long acquired by means of trial and error and has been transmitted from generation to generation, the traditional practitioners are more or less accurate in measuring the different ingredients used in preparing medicines. They provided information regarding the proportions of different medicinal ingredients in micro weights from their emic point of view. However, few of the medicinal plant parts were brought back from the field in the said precise micro weights as supplied by the medicine men. These on measurements in scientific balance were found to be more or less accurate in weight as mentioned by the traditional practitioners.

On the other hand, the magico-religious and spiritual practices are in use as curative as well as preventive measures. They may not have a scientific basis, but has a great impact on the psychology of the patient and his family members. In view of their deep rooted belief in the existence of malevolent spirits and deities the people always take precautions and abide by the codes of conduct prescribed to avoid the wrath of the supernatural beings. According to King (1962), "people believe that the malefic action of another human being or intervention by a supernatural power cause disease, which can be cured only by resort to appropriate magical formula or application to the supernatural power". It is strongly believed that if the magico-religious and spiritual ceremonies are performed at the right time in the proper manner, the occurrence of many diseases and ailments supposed to be caused by the evil spirit or wrath of malevolent spirits and deities can be avoided. During the period of disease crisis and in day-to-day life in general, strictly adhering to the magico-religious and spiritual beliefs signifies



that any sudden change or disrespect to these beliefs and practices can cause more harm than benefit.

On examination of the course of treatment, it was found that the Khamyangs for most of the severe diseases/ailments generally administer the above mentioned curative measures simultaneously aiming at quick relief. For example, in case of jaundice and female sterility herbal and magico-religious-spiritual treatment goes hand in hand. The curative measure consists of the specific rituals, practices, etc. and the intake of herbal medicines at the same time. Modern medicine (which is not within the purview of the present study) is rarely considered to intervene such problems as it is believed that the later cannot provide a permanent cure to the affliction. For all other diseases modern medicine along with traditional medicine is also preferred by the people. However, the selection pattern of the therapeutic and healing option for the diseases/ailments differs. Depending upon the nature of disease it is either in serial or simultaneously.

But to the dismay of many, the indigenous ethno-medicinal practices of the Tai-Khamyangs are gradually disappearing due to various reasons. From the in-depth personal interviews and discussions with the service providers and with the villagers as well a number of possible factors responsible for the same have been delineated. Some of them are: (i) no/or very less written record of the traditional medicines and practices, (ii) death of the aged traditional practitioners, (iii) younger generation being reluctant to learn the art, (iv) impact of modern education and more urban contact, (v) rapid development in every sphere of life and their gradual entry into the traditional society of the people, and (vi) recent initiatives and projects of the government both at the state and the central level to upgrade the rural health scenario through modern-western medical facilities. More or less this has made modern health care measures available almost at the doorsteps of the rural people all over. As such there may be a time in the near future where the ethnomedicinal practices of the Tai-Khamyangs may become extinct forever. Hence, to preserve and to enable the transmission of this remarkable medical system for the benefit of future generations there is an immediate need for proper written inventories and scientific studies of their ethnomedical knowledge.

## CONCLUSION

To sum up, the results of the present study support the presence of a comprehensive and highly formalized ethnomedical institution among the Tai - Khamyangs. Through this limited study it is seen that the indigenous ethnomedical practices dominates a distinctive position in the life of the people. Khamyang ethnomedicine can be termed as an art of skillful examination, diagnosis, ritual and expert treatment that is amicably administered as per need and are readily available within the reach of the people. From the emic view point no special value of superior or inferior is attached to any one of the diversified practices. Each one is valid in its own right of resolving a part of the crisis (Devarapalli 2007). Proper measures must be initiated in terms of documenting the indigenous knowledge system of the Tai - Khamyangs. Further research and scientific experimentations of the traditional medicines must be encouraged. In fine, to the best of the authors knowledge this type of academic studies related to ethnomedicine do not intrude the domain of intellectual property rights of the indigenous people unless some commercial benefit is derived from the use of their traditional knowledge and resources without their prior consent and without sharing the captured value with the original knowledge holders.

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