Documentation and Assessment on Knowledge of Ethno-Medicinal Practitioners: A Case Study on Local Meetei Healers of Manipur

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Abstract: The traditional medicinal healers of the state Manipurare generally known as Maibas for male health practitioner and Maibis in case of female health practitioner. Since time immemorial they are involved in prescribing folk-medicine with the help of herbal-medicine or mystic incantation. An investigation on 41 local Maiba and Maibi of Meetei community of Manipur is carried out to find reliability of their knowledge, and tested if these were related significantly to age, literacy, hesitation, results of their treatment, doses and to document such know ledges based on a total of 205 locally available medicinal plant spp. belonging to 87 families used for treating 18 major diseases classes. Traditional medicinal practitioners were also interviewed to gather information regarding knowledge of folk medicinal system, diagnostic system of ailments, classification of folk medicinal system, nomenclatural system and uses of medicinal plants found in Manipur as a remedy for various primary health complaints. In the present study three types folk medicinal system were recorded. The diagnostic system is bases on pulsation and symptoms. Nomenclature of medicinal plants was made in with reference to its medicinal value and traditional culture for easy identification. The Meetei forefathers put several norms for do and don't of eating food plants accordingly to the season and its consequences. Most of the species (72.20%) were wild species and the part used for medicinal properties were above-ground (83.41%) amongst which leaves (27.80%) were mainly harvested. Concoction mode of preparation (21.46%) is the most common way of preparation and gastrointestinal ailments (13.17%) constitute the major ailments treated. About 55.60% of the medicinal plants collected were taken orally taken internally for treatment of various primary health ailments. For some ailments like jaundice, snake bites, dog bites and stone cases, etc., more than 90% of the Manipuris preferred folk medicine rather than modern medicine. Age interval 56 and above constitute 70.7% of the informants of which majority of them are excellent professionals (46.3%) in the field of medicine of which almost 48.8% of them are illiterate. Again, age 35 - 45 were persons who have good knowledge of folk medicine but lacks experience, 46 - 55 have mixed type of folk medicine knowledge where as age above 56 have a good experience and better knowledge except some who have limited knowledge of folk medicine as they are following their parents footsteps only or due to their expertise is meant for treatment of a very few diseases only.

Statistical analyses showed that there was significant correlation between the age of the informant and his knowledge of plants on folk medicine. According to our statistical analysis, spearman correlation showed significant correlation (Spearman correlation test, r = 0.5435, at 5% level of significance) between the education level of traditional healers and the number of species reported.

Majority of herbal healers learnt their knowledge of folk medicine from mangtak (43.9%), it is from followed by forefathers (24.4%) and senior herbal practitioners as guru (24.4%) later other few learnt from literature. An excellent herbal practitioner could be characterized by aged (36 years and above) old experience, educated, who were accustomed with the use of wild plants, whose forefathers were herbal practitioners, who had gained high confidence of doses and cure, and with good knowledge of folk medicine and plants.

Key words: Manipuris, Maibas, Meetei, mangtak, practitioner, ethno medicinal plants.

I. Introduction

In ancient times, medicinal plants have been used all over the world as unique sources of medicines and may constitute the most common human use of biodiversity (Bannerman 1982; Hamilton 2004; Hiremath & Taranath, 2010). AYUSH(2003) defines traditional medicine as “The health practices approaches, knowledge and beliefs incorporating plant, animals and mineral based, medicines, spiritual therapies, method therapies manual techniques and exercises applied singularity or in combination to treat, diagnose and prevent illnesses for maintain well beings. It is argued that the traditional form of health care delivered by the traditional healers
meets some important community-felt needs which modern or Western medicine does not meet Mankazana (1979). In India, it is estimated that approximately 70% of the population relies on traditional medicine to meet primary health care needs (Lavekar and Sharma 2005).

Since the prehistoric times the inhabitants of Manipur has a unique history of using medicinal plants for treatment of various primary health ailments. Manipur indigenous medicine started developing during the then king, Meidunga senbi Kiyamba (1467-1508) who use Ponheiiton (Guava) as a medicine for treatment of diarrhoea. In written records, the healing practices by using herbs dates back to the then king Naophangba (428-518 A.D), latter reached its climax in the reigns of king Meidunga Chinghangkhomba (1763-1798 A.D) who described well established medicine uses for plants. The meetei kings had a very sophisticated system of health, disease and treatment and appointed his personal Maibas (Herbalist) like Konnak Thengra and Meidunga Lalhamba as their Maibas respectively (Khelchandra 1969; Meitei 2004).

The herbs and wild edible medicinal plants have got great mythological significance during the prehistoric days and there are many legendary histories of many local herbal physicians (Maiba or Maibi) for their miraculous treatment using herbal medicine with mystic incarnation. The Maibas through ages recorded the experiences of indigenous medicine and compiled them in from of herbal book by them known as Puyas. The Puyas are written record handed down to posterity by the forefathers of the Meeteis written in traditional script with or without the author name maintained during king’s time. The indigenous knowledge system of the herbal medicine practitioners were written on small thin, rectangular boards of the sapwood of Aquilaria agallocha (Agar) and the ink used was made from lamp black and the pen was made from fully seasoned Bambusa tulda Roxb. The Puyas are in the possession of various individuals and organization. Some of Puyas are Hidaklon (Folk medicine) in five volumes viz. Kanglei suglen puba puya, Shingligi maram, Laimuron, Taorinai yangbi and Thepalon. The system advocates a unique set of principles and guidelines of using traditional folk-medicine by the Manipuris. During king’s times in Manipur, traditional healer has got two compartments leaded by the head Maiba known as Maiba Ahal and Maibi Ahalbi (Khelchandra 1969). However, Maiba and Maibis can be broadly divided into two types namely, (i) witch doctors-in this type of Maibas, they practice an superstitious systems, who are deeply inclined to incantation and (ii) Herbal doctors-they try to cure diseases by giving herbal medicines based on traditional systems. Traditionally, medicinal plants were conserved in-situ in Umung lai (sacred grooves) and ex-situ in their home gardens of traditional herbal practitioners Maiba and Maibis(Khumbongmayum et al. 2005).

During the reign of the then king Pamheiba (1709 – 1748) embraced Hinduism in 1717 and with the instigation of the guru Santidas massive destruction of pre-hinduism records of Meetei philosophy, literature, cultural history and health and hygiene books were burned popularly known as Puya meithaba on the 17th day, Sunday in 1654 sara (1732 A.D) in front of Kangla Ultra (Kangla Fort) (Sanajaoba 2005). Moreover another reason for the disappearance of the Puyas is the consequences of the seven years devastation war fought with the Burmese (1817 -1832 AD) where mass destruction, migration and taking away of Puyas by the captives of war to Burma who were later on absorbed to Burma.

The threat from the Meetei king for the custodians of the Puyas must have led to keeping those materials in secret places for a very long time. Moreover the transition of Meetei mayek script to Bengali script for several decades makes it difficult for the younger generations to read the contents of Puyas. A catalogue of Manipur manuscript published by ManipurShahita parishad shows that the Puyas covered a number of human disciplines in which six (6) puyas were on Health and Hygiene; (Ebungohal & Khelchandra 1967; Khelchandra 1969).

The stateis blessed with richest repositories of medicinal and aromatic plants and moreover well-known for its diverse culture of human races. There is an age long intrinsic relationship between the ethnic Meetei community and medicinal plants for the treatment of various primary health care ailments which remained endemic to this particular community of this state. Although, less well documented, the use of traditional medicines and consultations with traditional healers is widely acknowledged in Manipur.

The people of Manipur continued the use of folk-medicine till recent years even though modern medical science is well established. There have been many reports by different researchers in recent years on folkloric treatment with herbal medicine by the Meetei community in Manipur viz., Sinha (1987, 1996), Singh & Singh (1995 a,b); Singh et al. (1996), Singh & Singh 1996; Singh et al. (1997), Singh & Singh (1997); Singh et al.(2001; Singh (2002); Elangbam (2002); Singh et al.(2003;Singh & Singh (2003a,b), Singh & Singh (2003); Khan (2005), Meitei et al.(2007),Devi & Singh 2008; Srivastav et al.(2009); Singh (2009); Devi et al. 2009;Singh et al. 2010;Devi et al. (2011), Yunnanm & Tripathi (2012) andYummemet al.(2012) reported for folkloric treatment with herbal materials that are being used to cure different diseases by the people of Manipur.

However, assessment and documentation on the reliability of knowledge of such regional practitioners is yet to be carried out for such an ethno botanically significant state. Thus, in the present study the practitioners of Meetei community in Manipur using medicinal plants were identified and assess their way of treatment, types of folk medicinal system, source of knowledge, diagnosing methods, healing methods, reliability, etc.
It is an attempt towards the assessment of true ethno medicinal practitioners who are now decreasing and secondly to draw the attention of importance for proper documentation and conservation of these traditional knowledge of Meetei community in Manipur.

II. Methodology

Study area
The state Manipur is the last independent states to be incorporated into British India. Manipur formed an important link culturally and otherwise between India on one side and Southeast Asia on the other. It stretches between the 23\textdegree 80' N – 25\textdegree 68' N and 93\textdegree 03' E – 94\textdegree 78' E and has a geographical area of 22,327 km\textsuperscript{2} which constitutes 0.7\% only to the total land surface of India (Vedaja 1998). The rich diversity of plants originates from the variations in the climatic and edaphic factors, location of the state on the confluence of Himalayas and Indo-Burma region. The region lying in the Indo-Burma Biodiversity Mega Hotspots ranks in the 8\textsuperscript{th} amongst the 34\textsuperscript{th} biodiversity hotspots of the world (Meyers et al. 2000). This holds immense potential for production and marketing of value added bio-resources in particular, spices, medicinal and aromatic plants.

Study Community
The documented history of Manipur begins with the reign of Meetei or Meitei King of Ningthouja clan Nongda Laien Pakhangba (dragon king/god) (r. 33 – 154 AD), who unified the seven clans viz. Ninthouja, Angom, Khuman, Luwang, Khaba-nagba, Moirang and Sarang-Leishanthem of Meetei society (Ebungohal & Khelchandra, 1967). Comparative ethnographic studies that it is fairly certain that the origin of Meetes might have belonged to the Tai race of the Indo Chinese group of Mongoloids. Generally known as manipuris and are genetically mongoloid in origin and speak a Tibeto Burman language follow Shanamahism the worship of Shanamahi, the creator aspect of Shida Mapu, the trinity God of the Meetes one of the oldest sects of Southeast Asia. It is believed to be originated form Manipur, India (Sanajoba 2005; Laishram 2009). Meetes has well established skills, beliefs and practices relating to promotion of positive health and avoidances of sickness even before the hospitals oriented system of medicine. The economy of the people of Manipur state is basically agrarian. About 70\% of the people are engaged in agriculture for their livelihood (Vedaja, 1998).

Study methods
Survey and collection and identification of plants
Several collection come survey tours were undertaken in the 9 districts of Manipur during the flowering seasons during the successive years April 2008 to May 2013. Plants were identified for their medicinal uses following Sinha 1996: Singh 2002; Singh et al., 2003; Singh, 2009. Information on the use of plants and products was collected from well known traditional healers, senior headman through personal contact and also through actual experiences. The authenticity of the uses was repeatedly verified by contacting various individuals. In case of contradictory information, efforts were made to get the correct uses. The plants were identified by following works of Clarke, 1884; Hooker (1872-97); Kanjilal et al. (1934-1940); Deb (1961 a, b); Singh & Arora, 1978; Sinha, 1987 a, b, 1996; Singh, et al., 1988 etc. The herbarium sheets are prepared following Jain and Rao 1977 and deposited for inclusion in the herbaria of Department of Life sciences, Manipur University, India. Author name of plants follows Brummit & Powell 1992, plant names index. All the species were thus updated following above literature in their scientific names. Collection of data from Traditional healers or Local Physicians
For this study the Maibus or Maibis who can be defined as indigenous folk healers who are acknowledged experts in diagnosing folk illness practices by using plants and other ingredients were selected as informants. The study was carried out for qualitative participatory documentation of the traditional healers of Meetei community in Manipur. Forty one (41) such practitioners staying in different villages were selected. All the plants collected were taken to these practitioners in the form of fresh plants, herbarium specimens, photographs or local names, etc. for them to get it understand. Close ended schedule type questioner is prepared and semi structured interviews of these practitioners were taken visiting their home for each professional traditional healer who medicated the local peoples by using ethno medicinal plants or folk medicine system. Moreover, the first author got the opportunities to interact with traditional healers every second saturday as there is an association called Apunba Maiba Maibi Pharup of Manipur where maximum numbers of more than 70 active members from different communities and districts were present.Ethnomedical uses of the plants were collected by visiting the houses of the informants, i. e. local herbal practitioners. The method of collection of such information follows Martin 1995, Haile et al. 2007 and Isil et al. 2004 with some modifications. Some of the criteria included in the questioner for statistical analysis are age of the informant, gender, education, employment, status, folk medicinal system, diagnostic system of ailment, classification of folk medicinal system, nomenclature of medicinal plants, preferability/hesitation to treatment, outcome, effectiveness, self confidence, doses, source of knowledge, mode of preparation, transfer of knowledge, dosages.
was questioned in manipuri language which is common to all the different communities. Diseases are also
categorized under 18 major groups 1). Gastrointestinal ailments (anthelmintic, colic pain, constipation,
diarrhoea, dysentery, digestive complaints, gastric problems, Gastro-enteritis, indigestion & stomach troubles,
stomach ulcer, piles, to expel intestinal worms of children), 2). Respiratory system disorder (asthma, bronchitis
& inflammatory diseases of the chest, cough, hiccup, irritation and inflammation of throat, sinusitis,
respiratory & breathing problems, sore mouth & tongue disorder, tonsillitis & throat trouble, 3). Inflammatory
problems (Relieve pains & swellings, back pain, muscular pain, inflammation due to washing and cleaning of
clothes and utensils, swollen joints, reduces pain and pains caused by pointed objects, 4). Urinary ailments
(urinary problems, infection and stone case), 5). Cardiovascular (hypertension, cure obesity) 6). Dermatological
problems (boils, leprosy, pimples, cracked skins, relieves body rashes, ringworm, warts, schbies, skin diseases,
hair scalp & infection originating in a hair, small pox of children), 7). Gynaecological problems (compaints
during pregnancy, easy delivery of child by pregnant women, menstrual complaints, to help conceive to occur,
lecorrhoea, gonorrhoea, to prevent miscarriage, white discharge), 8). First aids (antiseptic, bruises, wounds,
burns, coagulation of blood, cuts and injuries), 9). Dental problems (bleeding gums, toothache, gum bleeding),
10. Nervous disorderness (paralysis, headache, dizziness); 11. Endocrinology problem (controlling diabetes,
swollen glands, dropsy, glandular swelling of neck), 12. Ear and eye problems (ear ache, catarrh, eye
inflammation), 13). Bone fracture (enhanced healing of bone fracture, bone setting), 14). Tonic (liver tonic,
jaundice, heart disease, kidney tonic), 15). Carminative (for rejuvenating women after giving birth, health
improver for adults, for nursing mother and old person), 16). Fever (febrifuge, antipyretic); 17). Bites (dog,
snake, insect bites), 18). Miscellaneous (hair care, aphrodiasiac, promoting lactation, malnutrition, enhancing
vocalism by singers, mouth fresher).

Data on human ailments treated, local name, parts used, growth form, degree of management
(wild/cultivated), methods of preparation, route of administration and application, existing threats to medicinal
plants species and indigenous knowledge transfer were recorded. The collected medicinal plants species were
made voucher specimens and the collection numbers were recorded. The collected specimens are dried,
identified and deposited at Manipur University, herbarium Canchipur, Imphal, Manipur, India.

Data analysis
Chi square (x^2) test and Spearman rank correlation test were run in SPSS 12.0.1 to analyze ethno
botanical data. Chi square test was used to determine whether there is any significant variation between the
hesitation to medicate people with herbal medicine with the outcome of the treatment and also with the
consumption of medicinal plants for every type of disease whereas Spearman rank correlation rank regression
test was used to determine the correlation of knowledge of folk medicine with the age of the informant,
education level, exact composition and dosages of ailments and transfer of knowledge. Analysis of types of
plants, parts used major types of treatment and mode of preparation.

III. Results and discussion
Ethnobotanical data were collected from 41 randomly selected traditional healers using semi structured
interviews and the folk medicine where common people used for self medications were also recorded. The
traditional healers involved in the study were 37 were males and 4 were females ranged from 35 to 84. Most of the
healers are illiterate (53.85%), able to read and write (30.77%) while few (15.38%) attended up to 10
standard and above.

Types of traditional medicine practitioner
In the present study it is recorded that there are two types of health care practitioners who supply or
provide advice on herbal medicine in Manipur. The first type of health practitioners are those who provide
complementary and alternative medicine. They adopted traditional medicine from outside Meetei traditional
culture i.e, Ednian system of Ayurvedic (Homeopathy and Ayurvedic). They are not considered as indigenous
traditional and are known as Kabiraj or Ayurvedic doctor and the second type of traditional healers are
generally known as Maibas or Maibis as male practitioner and later for female practitioner. They are unlicensed
person who are involved in prescribing folk-medicine practices using indigenous traditional practices herbal
remedies or person who has inherited the gift of healing or mystic incantation (magical formula or spiritually
allegorical).

Indigenous healing methods of Manipur
In the present study it was recorded that traditional healer’s for the treatment of patients is based on
three types of folk medicinal system namely:
(i) Napi-singbina Laiyengbo(Herbal therapy) treatment with the use of herbal or medicinal plants. The health
healers try to cure the diseases by giving folk medicines made form herbs, vegetables, spices etc. and other

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ingredients for preparation of different formulations for mono-herbal or poly-herbal is done. Formulations are either taken internally in form of decoction, concoction and simply boiled and taken with or without spell. Formulations of some treatment ailments are very common that the villagers themselves as homeprepared remedies.

ii) Hakchang noiduna Laiyenga (Body message system/ Reflexology system), in this type fruits, seed oil, crushed part of plants are used along with massaging is done. This mixture is applied to all body organs and massage is done by giving certain nourish effect to the skin and other body systems. The Maibas will massage firstly on the navel part with or without spell believing that navel is the centre where the souls of human being lies. After that the Maiba will keep on changing the massaging proportions one by one navel- belly- abdomen- other part of the body which is found to be problematic. It is helpful in digestion, stomach problems, irregularity in menstruation, delivery problems, joints, muscle pains and for effective vibrating and re-healing activity of the human nervous system.

(iii) Lai Thajaba Laiyeng magico-religious or Psychotherapist system of folk medicine. It is the use of unseen powers to cure diseases. This practice is followed by the psychotherapist that are deeply inclined to the cure of ailments simply by incantation, oracles, performing ritual ceremonies, personal service of prayer, offering devils’ gift, food vegetables, flowers, etc. In the present study this folk medicinal system is not included.

**Diagnostics system followed by the informants**

The diagnostic system followed by the ethno medicinal healers is based on Mihun Kanglon yengduna Laiyenga (pulsation for diagnosis) and symptoms of the particular ailment and besides this Maibas also meditate with some incantations. The right hand of male and the left hand of the female folk are usually checked pulsation. The three fingers-index, middle and ring fingers are also used by the Maiba or Maibifor the pulse examination so as to enable to examine in deeper category.

**Steps required of treatment of an ailment**

The efficacies of medicine depend on correct harvesting, preparation and application of medicines. The traditional health healers for the treatment of a particular disease or illness follow the three steps:

i). Selection of medicine: After diagnosing symptoms and pulsation, Maibas select the required plants, plant parts, seed, bark, honey, mud, animal’s parts etc depending upon the type of ailments. ii). Collection of medicine: Collection is done by the Healer or patients itself depending upon the type of ailment. For collect the plant and other materials it requires some certain rules and taboos. For example; plants parts which are directed towards east, pluck without breathing, collect on Saturday and to collect at particular timing i.e. mid night etc. iii). Preparation of medicine: Preparation of medicine is done at particular time depending upon the type of ailments with or without spells on it. Formulation of herbal medicine is freshly prepared Single drug remedy or mono-herbal and poly herbal type. Mode of preparation is in form of decoction, concoction, as food with added ingredients, boiled and taken for internal preparation and porridge, crushed extract, poultice, etc. for external application.

**Indigenous nomenclature system of folk medicinal plants**

The folk-medicinal plants can be easily identified from the rest of the other plants according to their local names. The Meeitei fore-fathers particularly those who have the knowledge of folk-medicine named in such as way that even the younger generations who has got a little knowledge of medicinal plant and identify that the very plants is having a medicinal value. The three types of classification of medicinal plants are discussed below:

A) Nomenclature of medicinal plant- The folk medicinal plants are named with the inclusion of a suffix or a prefix, so as to enable to ranked as a traditional folk medicine as follows: (i) Lai (ii) Yai (iii) Yen (iv) Hidak (v) Jam (Cham) (vi) Ningthou (vii) Kok (viii) Ren (vii) Laangthrei (xi) Hee and x) Utong.

Lai- Laiuotong (Equisetum arvense); Yai- Takbao yai khi (Curcuma aromatic); Yen- Kongun-yen (Cissus adanata); Hidak- Nungsii-Hidak (Mentha spicata); Jam (Cham) – Champra (Citrus aromaticum); Ningthou- Ningthou khongli (Tinospora cordifolia); Kok – Kongan (Alangium chinense); Ren- Tai-ren (Toona cialita); Laangthrei- Langthrei (Eupatorium birmanicum); Hee- Mana hee- (Terminalia citrina); Utong- Utong-lei (Thevetia peruviana).

In Meeitei language medicine is term as hidak. The word hidak is added to the name of the plant as suffix or prefix at the time of naming of the plant which has got medicinal value. For example Nungsii hidak (Mentha spicata L.) is a very important medicinal plant which is plant for treatment of gastroenteritis in Manipur and moreover it correlates those modern scientific reports. From this concept it can be concluded that Meeitei community is very advanced for the classification of medicinal plants according to the literary meaning of a particular medicinal value.
[2] Weekly Medicine – nomenclature of medicinal plants is also done based on according to the names of even days of a week. The Meeteiancestor’s belief that some medicinal plants have their maximum curative power on a particular day in a week. If there is some sort of serious stage of a patient for treatment of a disease, the maibal maibi prescribe a medicine which is collect and prepared on that particular day of the week. Some of plants listed in Annexure: 1 is as set example:

**Nongmaijing** (Sunday): Local name- Nongmangkha, Scientific name-(Phlogacanthus thrysifloris); **Ningthoukaba** (Monday): Ningthou-khongli (Tinospora cordifolia); **Leibakpopka** (Tuesday): Leibakgnou (Artemisia nilagirica); **Yumnjakeisha** (Wednesday): Yerum-keirum (Stellaria media); **Shagolsen** (Thursday): Sha-mei (Buddleja asiatica); **Eerai** (Friday): Ensil (Oxalis corniculata); **Thangja** (Saturday): Thang-hidak (Litsea sebifera).

[3] Directional Medicine – nomenclature of folk-medicinal plants were also done based on collection systems of the plants with respect to the direction. Like in the above system nomenclature is done by adding either prefix or suffixes the eight directions to the plants name. For instance: The medicinal plants are name after the names of the eight directions as follows:

-Mang/Nongpok (East): The word i.e. Mang or Nongpok are added as suffix or prefix to the name of the medicinal plant viz., Mang-Heimang (Rhus succedanea); Kha/Makha (South): Kharom-leisom, (Holmskioldia arboretum); Awang/Wang (North): Wang-dem-khoibi, (Commelina benghalensis); Meiram (South-East): Mei-pokpi (Opuntia dilleni); Moirang Laiji (South-West): Moirang Khanum (Celerodendrum serratum); Koubru (North-West): Kou-rao-angouba (Erythrina variegata); Nongchup/Maning (West): Hei-ning, (Spondias pinnata); Chingkheli (North-east): Ching ensile (Antidesma acuminatum).

The nomenclature of Meetei folk-medicinal plant according to indigenous methods of using prefixes and suffixes of vernacular way, weekly days, direction has got a significant value shows the immense expertise in the field of folk medicinal knowledge. Even though, it has got its inclination towards the superstition and incantation systems it is quite systematic and extremely helpful for the younger generation in Meetei indigenous knowledge system of medicine. The above mentioned medicinal plants are in the list of plants [Annexure: 1].

The Meetei forefathers put several norms for do and don’t of eating food plants accordingly to the season and consequences. The table in [Annexure: 2] shows the months (English & Vernacular) and food (Local name & scientific name) not to be taken and it takes its consequences in form of ailments.

A total of 205 plants belonging to cultivated (33), climbers (28), trees (46), shrubs (32) and herbs (66) arranged alphabetically under 87 families was found to be medicinally used (Table 1). The most commonly medicinally utilized families of plants were Asteraceae (17 spp.), Zingiberaceae (12 spp.), Verbenaceae (9 spp.), Curcubitaceae (9 spp.) as medicinally useful. Most of the species (77.56%) were wild species and the parts used for medicinal properties were above-ground (88.61%) amongst which leaves (26.86%) were mainly harvested. In all the growth type i.e climbers, trees, shrubs and herbs the most used parts were leaves and in cultivated growth forms, it was fruit. Resin, tender pod, fronds, gum and pseudostem of single species each respectively were utilized. In case of small herbs, according to our informants generally the whole plant were collected entirely and taken whereas in case of large trees the twigs or stems were generally collected. An analysis on the collected plant species is provided in Table 3.

According to our statistical analysis, spearman correlation shows significant correlation (Spearman correlation coefficient, \( r = 0.5435,5\% \) level of significance) between the education level of traditional healers and the number of species reported. There was no significant relationship (Spearman correlation coefficient, \( r = 0.3146,5\% \) level of significance) between the age of the informant and his knowledge of plants on folk medicine. Amongst the 41 informants 90.2% were males and only 9.8% were females. The existence of female professional herbal practitioners in recent years follows the footsteps of their expired husbands or fathers which were previously working as herbal practitioners or so called hereditary healers. Age interval 56 and above constitute 70.7% of the informants which majority of them are excellent professionals (46.3%) in the field of medicine of which almost 48.8% of them are illiterate. Again, age 35 – 45 were persons who have good knowledge of folk medicine but lacks experience, 46– 55 have mixed type of folk medicine knowledge where as age above 56 have a good experience and better knowledge except some who have limited knowledge of folk medicine as they are hereditary healers who specialized in treatment of very few diseases.

According to ours statistical analysis there was no significant relationship (Spearman’s correlation coefficient, \( r = 0.4608,5\% \) level of significant) correlation was observed between the age of the informant and his knowledge of dosages of medicine.

No significant (X²calculated = 0.49, X²table value = 5.99) difference was observed between the consumption of medicinal plants for every type of diseases and hesitation to medicate people with herbal
Peoples does not hesitate to medicate with herbal medicine as they have accustomed with the used of wild plants (36.6%) followed by actual experience of the informants (31.7%) and confidence of the herbal practioners (31.7%). However, traditional healers of the opinion that it varies on individuals regarding the curing of a particular ailment. Herbal medicine are used for all types of primary diseases (36.6%) followed by some particular diseases (34.1%) and minor diseases (29.3%), regarding doses 51.2 % does not have idea about exact doses and only 12.1% of the informants have exact idea of doses. No significant \( \chi^2 \) calculated \( \chi^2 = 4.439 \), \( \chi^2 \) table value = 5.99) difference was observed between outcome of the treatment and hesitation to medicate people with herbal medicine. It meant that confidence level of the practitioner and the result of treatment is not significantly interdependent outcome of the treatment. Regarding the outcome of the treatment age intervals 35 – 45 were doubtful, 46– 55 have mixed type of opinion and age above 56 have greater confidence of their dosages of medicine.

All preparation is more or less the same way. Several species are believed to have medicinal properties and are commonly eaten by those villagers seeking therapeutically benefits. The mode of preparation falls under 16 categories (Table 5) in which decoction mode is the most prepared (20.79%) and the least in Ash and extraction. In case of climbers, trees and herbs the major mode of preparation is decoction whereas in cultivated it is added to meals and concoction in shrubs.

Regarding the type of ailments 18 types including miscellaneous are used for treatment. Of the 205 therapeutic applications described in the table Gastrointestinal ailments constitutes the highest (13.17%) followed by Respiratory system disorder (10.73%). Inflammatory problems, Dermatological problems and gynecological problems by (9.75%); Tonic(7.31%); First aids (5.85%); Miscellaneous (5.36%); Bites, Endoclinology problem and Urinary ailments by (4.87%); Fever (4.39%); Dental problems (2.43%); Nervous disorderness (1.95%); Carminative and Ear and eye problems (1.46%); Cardiovascular and Bone fractureby (0.97%).

[Insert figure:3]

In all the growth forms gastrointestinal ailments was the highest cured ailment. Several species where more than 90% of the manipuris significant took as self medications rather than modern medicine are Cuscuta reflexa, Melothria maderaspatana, Mimosa pudica and Pavetta indica boiled and the decoction is drunk to cure jaundice. Another such case is dog and snake bites where Amaranthus viridis, Mikania cordata, Argyreia nervosa, Bambusanutans and Arundo donax were effectively used by herbal practitioners. Minor ailments like stomach ulcer people simply boiled Benincasa hispida and consumed Phlogacanthus thyrisiflins and Solanum surattense. Drymaria cordata is dried and the smoke is inhaled for treatment of asthma and respiratory problems. Species Goniothalamus seuquipedalis and Crassocephalum crepidiodes leaves are simply crushed and applied the cuts and wounds when children got hurt while playing. Stone case of problems is also cure by herbal practitioners with great significant.

[Insert figure:4]

Moreover for urinary problems species like Cissus adanata Roxb., Cissus javanica (Thunb.)S.W, Parthenocissus quinquefolia were effectively used by the informants. Diplocyclos palmatus (L.) C. Jeffrey is used for reproductively problems. Some medicinal plants which were used for multiple therapeutic are Oroxylon indicum Vent, Mikania cordata (Burm.f.) B.L. Robinson, Phlogacanthus thyrisiflins Nees, Allium tuberosum Rottl. ex Sprang, Tinospora cordifolia Miers ex hook.f. Thong, Curcuma angustifolia Roxb, Allium tuberosum Rottl ex Spreng, Sapindus mukorosi Gaertn and Lygodium cernum L. Most frequently uses of herbal medicine are for bites (dog and snake bites), jaundice, stone case and gastrointestinal disorder were more preferred than modern medications.

There was significant relationship (Spearman correlation coefficient at 5% level of significance, \( r = 0.4164. \alpha = 0.05, p = 0.3199 \)) correlation was observed between the knowledge of plants on folk medicine and the mode of transfer of traditional knowledge from as most of the peoples in Manipur take herbal medicine for medicinal value (39%) followed by body of beliefs and concepts (34.1%) and traditionally accepted trend (26.8%).

Most of the traditional healers got their knowledge from their religious beliefs, forefathers, and traditional healers as guru or teachers. Majority of herbal healers learnt mungtak (a superstition where herbal practitioners beliefs that information about curing a particular ailments by a medicinal plant is given by god in his dream) 43.9%, followed by forefathers (24.4%) and senior herbal practioners as guru (24.4%) later others learnt from text based classical knowledge.

Ideally a plant can be regarded as safe if it is used for both food and medicinal purposes. Home remedy is a treatment to cure a disease or ailment that employs certain species, vegetables or other common item. About 85.85% of the medicinal plants collected are considered as home prepared remedies which are used both as foodstuff and folk medicine.
These past and current dependence upon plant as source for medicine gives impetus to ethnopharmaceutical studies for medicines their efficacy, safety and drug discovery potentials. Clinical studies with human subjects represent the only assessment of effectiveness and safety that can translate into medical practice, and national or local health policy (Graz et al 2007).

IV. Conclusion

Traditional health care practices by the Manipuri’s are differ in their historical origin, theoretical basis, diagnostic technique, therapeutic practice and healing methodswith thecomplementary and alternative medicine practices followed in the Indian mainstream. Traditional healers of Manipur were found to play great roles in the primary healthcare systems and curing some diseases with greater success and greater preference from the people than that of modern medications. There is a common cultural understanding regarding spirituality and healing that harbours trusts between the patients and the Maiba and Maibi. The findings revealed herbal remedies have many advantages like easily availability, easier to prepare and in addition to that it can be used home prepared remedies and moreover it was also linked to family influence and traditional, spiritual, dual health care and socioeconomic status.

While stereotypical folk medicine in some form of home prepared remedies of treatment of minor illnesses is widely practiced in Manipur. However, most of the knowledge acquired by the local people has been passed on to them by words of mouth from generation to generation. Further research is needed to ascertain the efficacy and safety of several of the practices and herbal formulation used by traditional medicine systems. The study showed that people collect leaves and fruits mostly thereby leaving a space for more survivability of the plants in comparison to that of use of underground plant plants.

Practitioners with only one specialization of treatment: i.e treatment a single particular disease is more knowledgeable and dependable, like diabetes, stone case, jaundice, bone fracture etc. Practitioners with multifarious disease depend mostly on others knowledgeable persons or bookish knowledge, knowledge acquired for others practitioners therefore they do not have deep understanding and experience of treatment with herbs.

The revival of Meetei mayekin recent years and Govt. of Manipur put up the ancient script in school curriculum in replace of Bengali script in 2005, the valuable indigenous knowledge for the future generation for precautionary measures and maintenance of good health from the secrets of these Puyus can be revealed. But, with the declining trend of indigenous herbal healers and few generations are coming forward to adopt folk healing practices as a profession in Manipur. The department of AYUSH and related institutions is actively trying to revitalize Manipuri Local health tradition and folk healing by conducting workshop, training programme and seminars. The challenges are to educate folk healers about their weakness and strengths and to attract young generation to adopt this profession by means of momentary benefits and to preserve both knowledge and biodiversity. It is high time for preservation and promotion of age old traditions of the Meetei community and to integrate the traditional knowledge with the modern medicine for the welfare of the Manipuri and mankind as whole.

Acknowledgements

The authors are thankful to Head of Department of Life Sciences for facilities. One of the authors (A. Pinokiyo) is thankful to Head of Department of Botany, DM College of Science, Imphal, Manipur for facilities and encouragements.

References:

Table 3: Showing correlation of Knowledge with age, level of education, knowledge of dosages and source of folk medicine of the 41 informants using SPSS ver. 15.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Age of the Informant</th>
<th>Level of Education</th>
<th>Knowledge on dosages of ailments</th>
<th>Source of knowledge on folk medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge on Folk medicine</td>
<td>-0.474** 0.002 41</td>
<td>0.544** 0.000 41</td>
<td>-0.417* 0.007 41</td>
<td>-0.455** 0.003 41</td>
</tr>
</tbody>
</table>

Figure 2: Showing major types of ailments against the number of plant species used

Figure 3: Showing Plant part used against the number of species

Figure 4: Showing the mode of preparation and administration
T able showing the ethno-medicinal uses of plants used by the Meetei community of Manipur, North east India.

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Scientific name</th>
<th>Local name</th>
<th>Family</th>
<th>Ty pe</th>
<th>Part used</th>
<th>Mode of preparation</th>
<th>Uses for treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Abelmoschus esculentus (L.) Moench MUMS 31237</td>
<td>Lam-</td>
<td>Malvaceae</td>
<td>Cul t</td>
<td>Fruit</td>
<td>Young fruit decoction is mixed with milk and taken orally</td>
<td>Aphrodisiac</td>
</tr>
<tr>
<td>2</td>
<td>Acantophanan trofistatus Merr. MUMS 31311</td>
<td>Singli</td>
<td>Araliaceae</td>
<td>H</td>
<td>Whol e</td>
<td>Crushed juice mixed with Brassica rapa L. oil is massage over the area</td>
<td>Analgesia</td>
</tr>
<tr>
<td>3</td>
<td>Acharanthus aspera L. MUMS 31238</td>
<td>Rhiangpere</td>
<td>Amaranthaceae</td>
<td>H</td>
<td>Root</td>
<td>Decoction is taken daily orally for a week beforehand</td>
<td>Timely delivery of child by Pregnant woman</td>
</tr>
<tr>
<td>4</td>
<td>Aceras calamus L. MUMS 31243</td>
<td>Ok-hidak</td>
<td>Acoraceae</td>
<td>H</td>
<td>Tub er</td>
<td>Decoction mixed with honey is orally taken</td>
<td>Severe cough &amp; chest congestion</td>
</tr>
<tr>
<td>5</td>
<td>Adiantum capillus-veneris L. MUMS 31550</td>
<td>Mayar pambi</td>
<td>Adiantaceae</td>
<td>H</td>
<td>Whol e</td>
<td>Boiled till tender and consumed</td>
<td>Bronchitis &amp; inflammatory diseases of the chest</td>
</tr>
<tr>
<td>6</td>
<td>Aerva lanata (L.) Schult. MUMS 31249</td>
<td>Napi</td>
<td>Averaceae</td>
<td>H</td>
<td>twig</td>
<td>Decoction is orally taken</td>
<td>Sore throat &amp; cough</td>
</tr>
<tr>
<td>7</td>
<td>Ageratum conyzoides L. MUMS 31266</td>
<td>Khongjai napi</td>
<td>Asteraceae</td>
<td>H</td>
<td>Leaf</td>
<td>Boiled with the decant of rice water and concoction is as used shampoo</td>
<td>Hair care</td>
</tr>
<tr>
<td>8</td>
<td>Alangium chinense (Lour.) Harms MUMS 31470</td>
<td>Kakan</td>
<td>Malvaceae</td>
<td>T</td>
<td>Leaf</td>
<td>Decoction is orally taken</td>
<td>Febrifuge</td>
</tr>
<tr>
<td>9</td>
<td>Allium sativum L. MUMS 31732</td>
<td>Chano</td>
<td>Alliaceae</td>
<td>Cul t</td>
<td>Whol e</td>
<td>Pounded and mixed with vegetable oil and spread over the area</td>
<td>Pains in joints &amp; bones</td>
</tr>
<tr>
<td>10</td>
<td>Alocasia indicaSchott. MUMS 31534</td>
<td>Tendem</td>
<td>Araceae</td>
<td>Cul t</td>
<td>Petiol e</td>
<td>Boiled with added ingredients and taken</td>
<td>For rejuvenating women after giving birth</td>
</tr>
<tr>
<td>11</td>
<td>Alocasia macrorrhiza (L.) G. Don MUMS 31725</td>
<td>Hongoo</td>
<td>Araceae</td>
<td>H</td>
<td>Corn</td>
<td>Paste mixed with fermented fish then preserved for 3 months to make Henak (contain iron, calcium)</td>
<td>Sore mouth, tongue problems of children</td>
</tr>
<tr>
<td>12</td>
<td>Alpinia galanga Wild. MUMS 31513</td>
<td>Kanghoo</td>
<td>Zingiberaceae</td>
<td>Cul t</td>
<td>Rhizo me</td>
<td>Fresh rhizome juice with warm water is taken orally</td>
<td>To expel intestinal worm</td>
</tr>
<tr>
<td>13</td>
<td>Alpinia aliiques Roscoe MUMS 31492</td>
<td>Pullee</td>
<td>Zingiberaceae</td>
<td>Cul t</td>
<td>Rhizo me</td>
<td>Paste prepared is applied over the area</td>
<td>Gout</td>
</tr>
<tr>
<td>14</td>
<td>Amaranthus spinosus L. MUMS 31671</td>
<td>Changkrek</td>
<td>Amaranthaceae</td>
<td>H</td>
<td>Twig</td>
<td>Pounded shoot mixed with egg is applied to skin</td>
<td>Burns</td>
</tr>
<tr>
<td>15</td>
<td>Amaranthus viridis L. MUMS 31555</td>
<td>Changkrek</td>
<td>Amaranthaceae</td>
<td>Cul t</td>
<td>Tende r leaf</td>
<td>Boiled with added ingredients and taken as food</td>
<td>Health improver for adults</td>
</tr>
<tr>
<td>16</td>
<td>Annona aromatica Roxb. MUMS 31261</td>
<td>Nanma</td>
<td>Zingiberaceae</td>
<td>H</td>
<td>Rhizo me</td>
<td>Crushed juice is used as droplets</td>
<td>Eye inflammation</td>
</tr>
<tr>
<td>17</td>
<td>Annona squamosa Linn. MUMS 31139</td>
<td>Hoojan</td>
<td>Acanthaceae</td>
<td>Cul t</td>
<td>Cor m</td>
<td>Paste prepared is applied as purgative, also baked and consumed</td>
<td>Rheumatic swellings</td>
</tr>
<tr>
<td>18</td>
<td>Annona senescens Linn. MUMS 31077</td>
<td>Waam</td>
<td>Ranculaceae</td>
<td>H</td>
<td>Root</td>
<td>Crushed juice is applied on the affected area</td>
<td>Cuts &amp; wounds</td>
</tr>
<tr>
<td>19</td>
<td>Anthoxanthus chinensis Walp. MUMS 31611</td>
<td>Keli</td>
<td>Rubiaceae</td>
<td>T</td>
<td>Bark</td>
<td>Decoction mixed with honey is orally taken</td>
<td>Febrifuge</td>
</tr>
<tr>
<td>20</td>
<td>Antidesma acutum Retz. MUMS 31837</td>
<td>Ching yensit</td>
<td>Phyllanthaceae</td>
<td>H</td>
<td>Leaf</td>
<td>Cooked as food and taken</td>
<td>Indigestion &amp; stomach troubles</td>
</tr>
<tr>
<td>21</td>
<td>Apamammijs polygynycha (Wall.) R.Parker MUMS 31077</td>
<td>Heurankhio</td>
<td>Meliaceae</td>
<td>H</td>
<td>Fruit</td>
<td>Fresh juice with sugar candy is boiled and concoction is orally taken</td>
<td>Liver tonic</td>
</tr>
<tr>
<td>No.</td>
<td>Species and Cultural Aspects</td>
<td>Family</td>
<td>Part(s) Used</td>
<td>Uses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Ardisia odontophylla Wall.</td>
<td>Myrsinaceae</td>
<td>Niphi</td>
<td>Crushed juice is massage over the surface</td>
<td>Rheumatism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Argyrea nervosa (Burm.f.) Bojer</td>
<td>Convolvulaceae</td>
<td>Pungding uri</td>
<td>Crushed juice mixed with Sesumum orientale L. oil is mixed and massage over the area</td>
<td>Rheumatism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Arisema triphyllum Schott</td>
<td>Araceae</td>
<td>Lin marei</td>
<td>Crushed juice is applied over the surface as ointment</td>
<td>Snake bite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Artabotrys hexapetalus (L.f.) Bliandari</td>
<td>Annonaceae</td>
<td>Chinichamp ra</td>
<td>Boiled with decoct of rice and concoction is used as hair lotion</td>
<td>Hair care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Artemisia nilagirica (C.B. Clarke) Pamp</td>
<td>Asteraceae</td>
<td>Lahakgno</td>
<td>Crushed juice is applied on affected area</td>
<td>Mouth sores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Arundo donax L.</td>
<td>Poaceae</td>
<td>Tenthou</td>
<td>Pounded is applied over bitten area</td>
<td>Snake &amp; dog bites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Asclepias curassavica L.</td>
<td>Asclepiadaceae</td>
<td>Krishna chura</td>
<td>Pounded paste is applied on bitten area</td>
<td>Snake bites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Asplenium nadus L.</td>
<td>Aspleniaceae</td>
<td>Samei</td>
<td>Extract of the leaves is applied over the surface</td>
<td>Skin diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Averrhoa carambola L.</td>
<td>Averrhoaceae</td>
<td>Hemoacom</td>
<td>Extract juice is spread over the affected surface</td>
<td>Burns &amp; scalds</td>
<td></td>
<td></td>
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<tr>
<td>33</td>
<td>Melia azaderach L.M.</td>
<td>Meliaceae</td>
<td>Setzrak</td>
<td>Boiled with Cynodon dactylon leaves and take bath</td>
<td>Small part of children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Bambusa nutans Wall. ex Munro</td>
<td>Poaceae</td>
<td>Oostang</td>
<td>Pounded and smeared over the affected area</td>
<td>Dog bites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Bambusa oliveriana</td>
<td>Poaceae</td>
<td>Warak</td>
<td>Pounded and applied over affected area</td>
<td>Injuries due to nails or any sharp things</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Bambusa tulda Roxb.</td>
<td>Poaceae</td>
<td>Saneibi</td>
<td>Pounded and spread over the infected area</td>
<td>Ringworm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Basella alba L.</td>
<td>Basellaceae</td>
<td>Urok</td>
<td>Smashed and mixed with Sesumum orientale L. and massage over the area</td>
<td>Muscular sprain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Bauhinia purpurea Wall.</td>
<td>Caesalpinaceae</td>
<td>Chingthrou leimachu</td>
<td>Decoction of bark is orally taken</td>
<td>Liver tonic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Bennecissa hopiha (Thunn.) Cogn.</td>
<td>Cucurbitaceae</td>
<td>Torobot</td>
<td>Boiled with water and consumed as food</td>
<td>Stomach ulcer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Bidens pilosa L.</td>
<td>Asteraceae</td>
<td>Hameng sampakpi</td>
<td>Pounded and applied over the area</td>
<td>Swollen glands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Boisso orallana</td>
<td>Bixaceae</td>
<td>Ureriron</td>
<td>Leaves paste applied over the bitten area</td>
<td>Snake bites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Blumea hieracifolia D.C.</td>
<td>Asteraceae</td>
<td>Ching terapalae</td>
<td>Crushed leaves is applied over the injuries</td>
<td>Coagulation of blood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Bliomepat arborea (D.Don) Merr.</td>
<td>Averrhoaceae</td>
<td>Hiochak</td>
<td>Cloth is soaked crushed juice and placed over the required area</td>
<td>Antipyretic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Bombus arilus L.</td>
<td>Bombaceae</td>
<td>Tera</td>
<td>Root decoction along with sugar is boiled in water and taken for seven days</td>
<td>Aphrodisiac</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Bryophyllum pinnatum (Lam.) Kurz</td>
<td>Crassulaceae</td>
<td>Mana hidak</td>
<td>Crushed extract is applied over the affected area</td>
<td>Insects bites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Buddleja asiatica Loour. MUMS 31349</td>
<td>Verbenaceae</td>
<td>Shamet</td>
<td>Crushed extract is smeared over the surface</td>
<td>Scabies &amp; others skin diseases.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Butea monosperma Kuntze</td>
<td>Verbenaceae</td>
<td>Mondol</td>
<td>Dried, powdered and form tablets and taken</td>
<td>To expel intestinal worm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Cajanus cajan (L.) Millsp.</td>
<td>Fabaceae</td>
<td>Matrongbi</td>
<td>Seed powered to made paste and taken</td>
<td>Promoting lactation</td>
<td></td>
<td></td>
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<tr>
<td>49</td>
<td>Calliarpca arboarea Roxb.</td>
<td>Verbenaceae</td>
<td>Mondol</td>
<td>Crushed extract with Sesumum orientale L. oil is massage over the joints</td>
<td>Rheumatic pain &amp; swellings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Calotropis arboetum (L.) W.T. Aiton</td>
<td>Asclepiadaceae</td>
<td>Angkot</td>
<td>Crushed mixed with Sesumum orientale L. oil is spread over the affected area</td>
<td>Relieve pains &amp; swellings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Cannabis sativa L.</td>
<td>Cannabinaecae</td>
<td>Garja</td>
<td>Powdered leaves mixed with honey</td>
<td>Leucorrhoea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Canthium angustifolium Roxb.</td>
<td>Rubiaceae</td>
<td>Lam heibi</td>
<td>Crushed mixed in water and honey is orally taken</td>
<td>Vomiting &amp; diarrohia of children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Capparia burnu-</td>
<td>Brassicaceae</td>
<td>Chantruk</td>
<td>Freshly taken</td>
<td>Urinary problems</td>
<td></td>
<td></td>
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</table>
### Documentation And Assessment on Knowledge of Ethno-Medicinal Practitioners: A Case Study On

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
<th>Family</th>
<th>Part Used</th>
<th>Preparations</th>
<th>Medicinal Uses</th>
</tr>
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<tbody>
<tr>
<td>Lam. Cucurbita maxima</td>
<td>Awathabi</td>
<td>Cucurbitaceae</td>
<td>Fruit</td>
<td>Pound and paste over the bitten area</td>
<td>Insects &amp; dog bite</td>
</tr>
<tr>
<td>Cuscuta occidentalis L.</td>
<td>Thouam</td>
<td>Fabaceae</td>
<td>S Leaf</td>
<td>Dried powdered leaves with water is taken orally</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Cuscuta australis L.</td>
<td>Heikreng</td>
<td>Ulmaceae</td>
<td>T Fruit</td>
<td>Juice with sugar in warm water is orally taken</td>
<td>Jaundice</td>
</tr>
<tr>
<td>Mentha arvensis</td>
<td>Peruk</td>
<td>Apiaceae</td>
<td>H Whole plant</td>
<td>Chewing and consumption of the whole plant</td>
<td>Irrigation, inflammation of throat</td>
</tr>
<tr>
<td>Chenopodium album</td>
<td>Monshaobi</td>
<td>Chenopodiaceae</td>
<td>Calt</td>
<td>Boiled till tender and consumed</td>
<td>Leucorrhoea</td>
</tr>
<tr>
<td>Cissus quadrata Roxb.</td>
<td>Koyouyen</td>
<td>Vitaceae</td>
<td>Chm</td>
<td>Boiled extract of leaves is orally taken</td>
<td>Urinary stone case</td>
</tr>
<tr>
<td>Cinnamonum zeylanicum Blume</td>
<td>Uchingsha</td>
<td>Lauraceae</td>
<td>T Root &amp; bark</td>
<td>Boiled in water and used as gargle</td>
<td>Bad breath / mouth freshener</td>
</tr>
<tr>
<td>Cissus javanica D.C.</td>
<td>Koyouyen Luba</td>
<td>Vitaceae</td>
<td>Chm</td>
<td>Boiled extract of leaves is taken</td>
<td>Urinary disorder</td>
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<tr>
<td>Citrus medica L.</td>
<td>Heizung</td>
<td>Rutaceae</td>
<td>Calt</td>
<td>Cut pieces with decant of rice is boiled and consumed</td>
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<td>Citrus limon L.</td>
<td>Chaungra</td>
<td>Rutaceae</td>
<td>Calt</td>
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<tr>
<td>Citrus macropera Mont. MUMS 31280</td>
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<td>Calt</td>
<td>The rind of the fruit is used in the preparation of a gargle</td>
<td>Enhancing vocalism by singers</td>
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<tr>
<td>Clerodendrum celebrosianum Wulp. MUMS 31631</td>
<td>Khuhip</td>
<td>Verbenaceae</td>
<td>S Leaf</td>
<td>Boiled in water adding ingredients and consumed</td>
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<tr>
<td>Clerodendrum indicum</td>
<td>Charoi stong</td>
<td>Verbenaceae</td>
<td>S Whole</td>
<td>Decoction mixed with honey and is orally taken</td>
<td>Menstrual disorder</td>
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<tr>
<td>Clerodendrum serratum</td>
<td>Moirang khanum</td>
<td>Verbenaceae</td>
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<tr>
<td>Coix lacryma-jobi L.</td>
<td>Channing</td>
<td>Poaceae</td>
<td>S Root</td>
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<tr>
<td>Colocasia esculenta (L.) Schott. MUMS 31235</td>
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<td>Araceae</td>
<td>Calt</td>
<td>Leaf is boiled with fresh milk and consumption is orally taken.</td>
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<tr>
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<td>Wangdem khoibi</td>
<td>Commelinaeae</td>
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<td>Crushed juice is applied over the surface</td>
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<tr>
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<td>Convolvulaceae</td>
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<td>Conyza japonica Less. MUMS 31790</td>
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<td>Asteraceae</td>
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<tr>
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<td>Boraginaeae</td>
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<td>Phadigom</td>
<td>Apiaceae</td>
<td>Calt</td>
<td>Crushed juice with hot water is orally taken</td>
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<td>Asteraceae</td>
<td>H Leaf</td>
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<td>Antiseptic</td>
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<td>Cuscuta sativus L. MUMS 31816</td>
<td>Thabi</td>
<td>Cucurbitaceae</td>
<td>Calt</td>
<td>Freshly or boiled with water with a pinch of sugar consumed</td>
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<td>Cucurbitaceae</td>
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<td>Pounded and is applied over the surface</td>
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<td>Curcuma aromatica</td>
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<tr>
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<td>Yangjung</td>
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<td>Calt</td>
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<td>Burns &amp; skin tonic</td>
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<td>83</td>
<td>Cymbopogon citratus Stapf. MUMS 31374</td>
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<td>Whole</td>
<td>The dried plant is boiled in water and decoction is taken orally</td>
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<td>84</td>
<td>Cyperus rotundus L. MUMS 31199</td>
<td>Cyperaceae</td>
<td>Whole</td>
<td>The plant juice mixed with honey is orally taken</td>
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<td>85</td>
<td>Dichrocephala integrifolia (L.f.) Kunze MUMS 31864</td>
<td>Asteraceae</td>
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<td>86</td>
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<td>87</td>
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<td>Dioscoreaceae</td>
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<td>89</td>
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<td>Asteraceae</td>
<td>T</td>
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<td>90</td>
<td>Dipsrocarpus tuberculatus Roxb. MUMS 31944</td>
<td>Euphorbiacae</td>
<td>T Fruit</td>
<td>Infusion with sugar kept for two week and orally taken</td>
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<td>91</td>
<td>Drosinia indica (Colebr.) Deene MUMS 31188</td>
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<td>T</td>
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<tr>
<td>92</td>
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<td>Asteraceae</td>
<td>H Whole</td>
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<td>93</td>
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<td>96</td>
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<td>Euphorbiaceae</td>
<td>T Fruit</td>
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<td>Apiaceae</td>
<td>C Whol</td>
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<td></td>
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<td>Fabaceae</td>
<td>T Twig</td>
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<td>100</td>
<td>Eupatorium adenophorum Spreng. MUMS 31432</td>
<td>Asteraceae</td>
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<td></td>
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<tr>
<td>101</td>
<td>Eupatorium biuncinum DC MUMS 31386</td>
<td>Asteraceae</td>
<td>H Leaf</td>
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<td>102</td>
<td>Eupatorium odoratum L. MUMS 31900</td>
<td>Asteraceae</td>
<td>S Leaf</td>
<td>Decoction mixed with honey is orally taken</td>
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<tr>
<td>103</td>
<td>Euphorbia birta L. MUMS 31472</td>
<td>Euphorbiaceae</td>
<td>H Whol</td>
<td>Boiled with Commnus cynnium L. seeds is waterand taken orally</td>
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<tr>
<td>104</td>
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<td>Moraceae</td>
<td>T Gum</td>
<td>Gum is applied on the affected area</td>
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<tr>
<td>105</td>
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<td>Moraceae</td>
<td>T Bark</td>
<td>Decoction of bark is added pinch of powdered Piper nigrum with honey is orally taken for 7 days</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>Ficus semicordata Buch.-Ham MUMS 31468</td>
<td>Moraceae</td>
<td>T Bark</td>
<td>Founded bark is applied externally</td>
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<tr>
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<td>T Fruit</td>
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<td>108</td>
<td>Galmoga parviflora Cav. MUMS 31598</td>
<td>Asteraceae</td>
<td>H Leaf</td>
<td>Decoction mixed with honey is orally taken</td>
<td></td>
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<tr>
<td>109</td>
<td>Garcinia penduculata Roxb MUMS 31733</td>
<td>Clusiaceae</td>
<td>T Fruit</td>
<td>Boiled in water and the pulp is applied on affected area</td>
<td></td>
</tr>
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**Documentation And Assessment on Knowledge of Ethno-Medicinal Practitioners: A Case Study On**
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<th>No.</th>
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<th>Part Used</th>
<th>Plant Form</th>
<th>Preparation</th>
<th>Medicinal Use</th>
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<td>Santhak munbee</td>
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<td>H</td>
<td>Leaf</td>
<td>Crushed juice is applied externally to relieve Swollen joints.</td>
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<td>111</td>
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<td>Yong komla</td>
<td>Rutaceae</td>
<td>T</td>
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<td>Juice mixed with honey is orally taken Jaundice</td>
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<td>Wang</td>
<td>Verbenaceae</td>
<td>T</td>
<td>Root</td>
<td>Pounded and applied to the bitten area Poisonous bites.</td>
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<tr>
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<td>Goncalophyllum uliginosum C.B. Clarke MUMS 31474</td>
<td>March cudweed</td>
<td>Asteraceae</td>
<td>H</td>
<td>Twig</td>
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<tr>
<td>114</td>
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<td>Leaf</td>
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<td>Zingiberaceae</td>
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<td>Deconction is used as a gargle Throat complaints</td>
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<td>116</td>
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<td>Takhellet anguha</td>
<td>Zingiberaceae</td>
<td>H</td>
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<tr>
<td>117</td>
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<td>Takhellet hongumap an</td>
<td>Zingiberaceae</td>
<td>H</td>
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<td>118</td>
<td>Hedystis auricularia L. MUMS 31935</td>
<td>Langban lasukha</td>
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<td>Leaf</td>
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<tr>
<td>119</td>
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<td>Asclepiadaceae</td>
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<td>Root</td>
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<tr>
<td>120</td>
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<td>Malvaceae</td>
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<tr>
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<td>Balsaminaceae</td>
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<td>Ipomoea batatas (L.) Lam. MUMS 31945</td>
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<td>128</td>
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<td>Bark</td>
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<td>129</td>
<td>Kaempferia galanga L. MUMS 31193</td>
<td>Yaithamman anbi</td>
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<td>130</td>
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<td>132</td>
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<td>134</td>
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<td>Letsea monocarpa Pers. MUMS 31778</td>
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<tr>
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<td>Part Used</td>
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<td>138</td>
<td>Melastoma malabathricum L.</td>
<td>Melastomataceae</td>
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<td>Dental problems</td>
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</tr>
<tr>
<td>139</td>
<td>Melia azedarach L.</td>
<td>Mimosaceae</td>
<td>Ch</td>
<td>Deocotion is orally taken</td>
<td>Jaundice</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>Mentha spicata L.</td>
<td>Lamiataceae</td>
<td>H</td>
<td>Fresh leaves is consumed</td>
<td>Gastro-enteritis</td>
<td></td>
</tr>
<tr>
<td>141</td>
<td>Mesua ferrea L.</td>
<td>Magnoliataceae</td>
<td>T</td>
<td>Deocotion is orally taken</td>
<td>Asthma</td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>Michelia champaca L.</td>
<td>Magnoliataceae</td>
<td>T</td>
<td>Deocotion is orally taken with honey</td>
<td>Colic</td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>Mikania cordata (Burm.f.) B.L. Rob.</td>
<td>Asterataceae</td>
<td>Ch</td>
<td>Deocotion is orally taken</td>
<td>Snake bite</td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>Millietta pachyarpasBenth.</td>
<td>Asterataceae</td>
<td>S</td>
<td>Extract juice is applied over affected area</td>
<td>Scabies</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>Mimosa pudica L.</td>
<td>Mimosaceae</td>
<td>H</td>
<td>Deocotion is orally taken</td>
<td>Jaundice</td>
<td></td>
</tr>
<tr>
<td>146</td>
<td>Mitragyna speciosa</td>
<td>Rubiataceae</td>
<td>H</td>
<td>Crushed juice is applied over the surface</td>
<td>Bruses &amp; wounds</td>
<td></td>
</tr>
<tr>
<td>147</td>
<td>Momordica charantia L.</td>
<td>Cucurbitataceae</td>
<td>C</td>
<td>Sliced parts are fried in Brassica rapa oil and consumed</td>
<td>Controlling diabetes</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>Macuna pruriens (L.) DC.</td>
<td>Mimosaceae</td>
<td>C</td>
<td>Powdered mixed with milk is orally taken</td>
<td>Aphrodisiac</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>Musa x paradisiaca L.</td>
<td>Musaceae</td>
<td>H</td>
<td>Boiled till tender and orally taken</td>
<td>Purgative</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>Muscari communatum</td>
<td>Asparataceae</td>
<td>H</td>
<td>Crushed juice diluted is orally taken</td>
<td>Cough</td>
<td></td>
</tr>
<tr>
<td>151</td>
<td>Mussaenda frondosa L.</td>
<td>Rubiataceae</td>
<td>C</td>
<td>Paste of the crushed leaves is applied to the broken part</td>
<td>Healing bone fracture</td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>Mussaenda roxburghii Hook.f.</td>
<td>Rubiataceae</td>
<td>C</td>
<td>Pounded bark juice is applied over the bitten area</td>
<td>Snake bite</td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>Ophiopogon intermedius D.Don</td>
<td>Haemodorataceae</td>
<td>C</td>
<td>Deocotion is orally taken</td>
<td>Dropy</td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>Opuntia dillenii Haw.</td>
<td>Cactataceae</td>
<td>H</td>
<td>Stem</td>
<td>Inflammation of fingers due to washing or cleaning of clothes and utensils.</td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>Oroxyllum indicum</td>
<td>Bignoniataceae</td>
<td>T</td>
<td>Bark</td>
<td>Piles</td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>Osbeckia stellata Wall.</td>
<td>Melastomataceae</td>
<td>S</td>
<td>Twigs</td>
<td>Menstrual complaints</td>
<td></td>
</tr>
<tr>
<td>157</td>
<td>Oursia corniculata L.</td>
<td>Oxalidataceae</td>
<td>H</td>
<td>Twigs</td>
<td>Tonic for heart disease</td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>Apera forstii L.</td>
<td>Rubiataceae</td>
<td>C</td>
<td>Twigs</td>
<td>Enhanced healing bone fracture</td>
<td></td>
</tr>
<tr>
<td>159</td>
<td>Passiflora malabarica</td>
<td>Passiflorataceae</td>
<td>C</td>
<td>Leaf</td>
<td>Antihelmintic</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Parkia roxburghii G.Don</td>
<td>Mimosaceae</td>
<td>T</td>
<td>Tender pod</td>
<td>Constipation</td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>Parthenocissus quinquefolia (L.)</td>
<td>Vitataceae</td>
<td>C</td>
<td>Fruit</td>
<td>Liver tonic</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>Passiflora edulis Sims.</td>
<td>Passiflorataceae</td>
<td>C</td>
<td>Leaf</td>
<td>Dysentery</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>Pavetta indica L.</td>
<td>Rubiataceae</td>
<td>S</td>
<td>Leaf</td>
<td>Jaundice</td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>Phlogacanthus thysiformis Nees</td>
<td>Cacantaclataceae</td>
<td>S</td>
<td>Twigs</td>
<td>Cough &amp; fever</td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>Piper longum L.</td>
<td>Piperataceae</td>
<td>C</td>
<td>Fruit</td>
<td>Respiratory problems</td>
<td></td>
</tr>
<tr>
<td>166</td>
<td>Plantago ovata Wall.</td>
<td>Plantaginataceae</td>
<td>H</td>
<td>Leaf</td>
<td>Muscular sprains &amp; swellings</td>
<td></td>
</tr>
<tr>
<td>167</td>
<td>Plumbago zeylanica L.</td>
<td>Plumbaginataceae</td>
<td>H</td>
<td>Crushed fresh leaf juice is orally taken</td>
<td>Menstrual disorder</td>
<td></td>
</tr>
<tr>
<td>168</td>
<td>Prunus persica (L.)</td>
<td>Rosataceae</td>
<td>T</td>
<td>Fruit</td>
<td>Urinary troubles</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Family</td>
<td>Part taken</td>
<td>Medicinal Use/Condition</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------</td>
<td>----------------------------------</td>
<td>-------------------</td>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>Psidium guajava L. MUMS 31283</td>
<td>Pungdon</td>
<td>Myrtaceae</td>
<td>Leaf</td>
<td>Crushed tender leaves juice with little water is drunk or the fruit is freshly eaten. Diarrhoea</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>Pteris ensiformis Burm. F. MUMS 31110</td>
<td>Laichangkhor</td>
<td>Pteridaceae</td>
<td>Frond</td>
<td>Decoction of the fresh fronds is orally taken</td>
<td>Glandular swelling of the neck</td>
</tr>
<tr>
<td>171</td>
<td>Quercus serrata Thunb. MUMS 31207</td>
<td>Uynug</td>
<td>Fagaceae</td>
<td>Leaf</td>
<td>The ash obtained by burning the leaves are mixed with water until it turns coffee colour and taken orally</td>
<td>White discharge</td>
</tr>
<tr>
<td>172</td>
<td>Rhododendron arboreum Sm. MUMS 31860</td>
<td>Ching leihau</td>
<td>Ericaceae</td>
<td>Twig</td>
<td>Decoction is orally taken before delivering child</td>
<td>Easy deliver</td>
</tr>
<tr>
<td>173</td>
<td>Rhus succedanea Murray MUMS 31606</td>
<td>Heiningar</td>
<td>Anacardiaceae</td>
<td>Seed</td>
<td>Seed mixed Allium cepa and sugar candy is boiled in water and the concoction is orally taken</td>
<td>Controlling diabetes</td>
</tr>
<tr>
<td>174</td>
<td>Ricinus communis L. MUMS 31607</td>
<td>Kege</td>
<td>Euphorbiaceae</td>
<td>Root</td>
<td>Boiled together with PinaxKesiya Royle ex Gordon leaf, stipe of Nymphaea nouchali Burm.f. and concoction is orally taken</td>
<td>Complaints during pregnancy</td>
</tr>
<tr>
<td>175</td>
<td>Rubus ellipticus Sm. MUMS 31369</td>
<td>Lamhejampet</td>
<td>Rosaceae</td>
<td>Leaf</td>
<td>Fresh tender leaves are chewed and sap is swallowed</td>
<td>Tongue sores</td>
</tr>
<tr>
<td>176</td>
<td>Sapindus mukorossi Gaertn. MUMS 31301</td>
<td>Kekru</td>
<td>Sapindaceae</td>
<td>Fruit</td>
<td>Fresh foam on stirring the fruit with water is applied as poultice</td>
<td>Antipyretic for children</td>
</tr>
<tr>
<td>177</td>
<td>Schefflera venulosa (Wight &amp; Am.) Harms. MUMS 31246</td>
<td>Uynug</td>
<td>Araliaceae</td>
<td>Root</td>
<td>Boiled root mixed with rice and consumed</td>
<td>Dropsy</td>
</tr>
<tr>
<td>178</td>
<td>Schima wallichii Chosey MUMS 31241</td>
<td>Usot</td>
<td>Theaceae</td>
<td>Fruit</td>
<td>Fleshly part is stirred along with little water to form foam and applied as poultice</td>
<td>Antipyretic</td>
</tr>
<tr>
<td>179</td>
<td>Scutellaria discolor Wall. ex Benth. MUMS 31325</td>
<td>Yenahbut</td>
<td>Lamiaceae</td>
<td>Whole</td>
<td>Decoction is orally taken</td>
<td>Controlling diabetes</td>
</tr>
<tr>
<td>180</td>
<td>Senna toro (L.) Roxb. MUMS 31253</td>
<td>Thaunam</td>
<td>Fabaceae</td>
<td>Young twig</td>
<td>Boiled and pounded and applied as porridge</td>
<td>Cuts and wounds</td>
</tr>
<tr>
<td>181</td>
<td>Sesamum indicum L. MUMS 31239</td>
<td>Thoiding amuba</td>
<td>Pedaliaceae</td>
<td>Seed</td>
<td>Crushed seed oil is applied on a cotton and applied on head</td>
<td>To relieve acute headache and dizziness.</td>
</tr>
<tr>
<td>182</td>
<td>Sida rhombifolia L. MUMS 31230</td>
<td>Uhan</td>
<td>Malvaceae</td>
<td>Root</td>
<td>Mixture of powdered root, sugar, fresh milk and pure ghee is orally taken</td>
<td>For pregnancy to happen/ Conceived</td>
</tr>
<tr>
<td>183</td>
<td>Simalas zeylanica L. MUMS 31348</td>
<td>Keshum</td>
<td>Liliaceae</td>
<td>Twig</td>
<td>Crushed mixed with vegetable oil is applied as poultice</td>
<td>Rheumatic swellings</td>
</tr>
<tr>
<td>184</td>
<td>Solanum anipari Lam. MUMS 31441</td>
<td>Leppung bangma</td>
<td>Solanaceae</td>
<td>Fresh Leaf</td>
<td>Crushed juice mixed with honey is oral taken</td>
<td>Sore mouth &amp; tongue disorder</td>
</tr>
<tr>
<td>185</td>
<td>Solanum surattense Burm.f. MUMS 31300</td>
<td>Singkgang</td>
<td>Solanaceae</td>
<td>Seed</td>
<td>Dried and burn in charcoal and smoke is allowed to enter mouth</td>
<td>Toothache &amp; anti-ashmatic</td>
</tr>
<tr>
<td>186</td>
<td>Solanum torvum Sw. MUMS 31200</td>
<td>Shnng bhangga</td>
<td>Solanaceae</td>
<td>Fruit</td>
<td>Crushed juice mixed with honey is orally taken</td>
<td>Tonsillitis</td>
</tr>
<tr>
<td>187</td>
<td>Splanchxes paniculata Wall ex DC. MUMS 31387</td>
<td>Manjarenge</td>
<td>Astaraceae</td>
<td>Inflorance</td>
<td>Freshly chew</td>
<td>Toothache</td>
</tr>
<tr>
<td>188</td>
<td>Spondias pinuata(L.) Kurz MUMS 31366</td>
<td>Heuinga</td>
<td>Anacardiaceae</td>
<td>Leaf</td>
<td>Crushed juice is applied in drops</td>
<td>Ear-ache</td>
</tr>
<tr>
<td>189</td>
<td>Stephania japonica (Thunb.) Miurs. MUMS 31411</td>
<td>Thanggu ugi angnguba</td>
<td>Menispermaceae</td>
<td>Tuber</td>
<td>Crushed juice is applied as poultice over fore head</td>
<td>Antipyretic</td>
</tr>
<tr>
<td>190</td>
<td>Swertia chirata C.B. Clarke MUMS 31398</td>
<td>Chirata</td>
<td>Gentianaceae</td>
<td>Whole</td>
<td>Decoction is orally taken</td>
<td>Gastro-enteritis</td>
</tr>
<tr>
<td>191</td>
<td>Terminalia citrina Roxb. MUMS 31877</td>
<td>Manahi</td>
<td>Combretaceae</td>
<td>Fruit</td>
<td>Decoction is orally taken</td>
<td>Controlling diabetes</td>
</tr>
<tr>
<td>192</td>
<td>Thalictram foliolosum DC. MUMS 31359</td>
<td>Khururi</td>
<td>Ramunculaceae</td>
<td>Root</td>
<td>Decoction is taken with honey orally</td>
<td>Febrifluge</td>
</tr>
<tr>
<td>193</td>
<td>Thunbergia alata Sims MUMS 31404</td>
<td>Sambal sana kludop</td>
<td>Acanthaceae</td>
<td>Leaf</td>
<td>Poultice is mixed with the bee hive mud and applied over forehead</td>
<td>Relief from acute headache</td>
</tr>
<tr>
<td>194</td>
<td>Thunbergia grandiflora</td>
<td>Sambal</td>
<td>Acanthaceae</td>
<td>Leaf</td>
<td>Decoction is orally taken</td>
<td>Stomach</td>
</tr>
</tbody>
</table>
### Table: Edible and Medicinal Plants

<table>
<thead>
<tr>
<th>Month</th>
<th>Locality</th>
<th>Plant Name</th>
<th>Part Used</th>
<th>Preparation</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Apr - mid May</td>
<td>Sajibhu</td>
<td>Mura pseudonucellata L. (Laphis) pesudostem and inflorescence</td>
<td>Snaps</td>
<td>Decoction is mixed with CaCO₃.</td>
<td>less strength and complexion</td>
</tr>
<tr>
<td>Mid May - mid Jun</td>
<td>Kalen</td>
<td>Hedychium coronarium Koenig (Lokle) &amp; Alpinia nigra (Gaertn) Burt.</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Urinary trouble</td>
</tr>
<tr>
<td>Mid Jun - mid Jul</td>
<td>Inga</td>
<td>Oenanthe javanica (Blume) DC. (Komprek) &amp; Polygonum barbatum L. (Yellang)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Urinary trouble and gastroenteritis</td>
</tr>
<tr>
<td>Mid Jul - mid Aug</td>
<td>Ingel</td>
<td>Plantago erosa Wall. (Yempat) &amp; Picropermum acerifolium (Kavka) &amp; Citus reticulare Blono. (Komla), Agarica campestre L. (Chengun) &amp; Lastarius princeps Berk. (Chengun)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Stomach trouble</td>
</tr>
<tr>
<td>Mid Aug - mid Sep</td>
<td>Tawan</td>
<td>Hedychium coronarium Koenig (Lokle) &amp; Alpinia nigra (Gaertn) Burt. (Pulitei) Sagittaria sagittifolia L. (Koukha)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Skin disease and nervous problem</td>
</tr>
<tr>
<td>Mid Sep - mid Oct</td>
<td>Langba</td>
<td>Aloaxis indic Schott. (Pangkghok) Lecus aspera Link., Knosia roshbaghii (Yembuan), Pogostemon parvusicae (Tekla)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Sore throat</td>
</tr>
<tr>
<td>Mid Oct - mid Nov</td>
<td>Mera</td>
<td>Cucurbita maxima Duch. (Mairel), Houttuynia cordata Thunb. (Tokningkoking)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Nervous and stomach troubles</td>
</tr>
<tr>
<td>Mid Nov - mid Dec</td>
<td>Hiyangei</td>
<td>Brassica rapa (Hangam), Centella asiatica (L.) Urban (Peruk), Lentissis conatus Berk. (Uyen) &amp; Lentissis squarrosideus Mont. (Uyen)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Skin diseases and gum problems</td>
</tr>
<tr>
<td>Mid Dec - mid Jan</td>
<td>Poiu</td>
<td>Luffa cylindrica (L.) Roem. (Sebot), Trichosanthes anguina (L.) (Sebot-linambui)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Gum disease and weakness</td>
</tr>
<tr>
<td>Mid Jan - mid Feb</td>
<td>Wachching</td>
<td>Schima wallichii Choisy (Usoi), Teenoschium oitgihit Beddome (Nat), Cephalostachium capitatum Munro (Nat) shoots (Sojitin), Paephocharpus tetragonolobus DC. (Tengnonnumabui)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Gastroenteritis, gastritis</td>
</tr>
<tr>
<td>Mid Feb - mid Mar</td>
<td>Phairel</td>
<td>Wendlandia indutuata DC. (Phelija), Alternanthera sessilis (L.) R.Br. ex DC. (Phakchhet), Plantago erosa (Yempat)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Dermatological problems</td>
</tr>
<tr>
<td>Mid Mar - mid Apr</td>
<td>Lamta</td>
<td>Dolichos lablab L. (Hawai-thangpuk), Lysimachia parvifolia Franch (Kengo)</td>
<td>Leaf</td>
<td>Decoction is taken orally</td>
<td>Leucorrhoea or white discharge</td>
</tr>
</tbody>
</table>

### Annexure 2: Table showing do and don’ts of eating food plants accordingly to the season and its consequences

<table>
<thead>
<tr>
<th>Month</th>
<th>Edible plants not to be taken</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Apr - mid May</td>
<td>Mura pseudonucellata L. (Laphis) pesudostem and inflorescence</td>
<td>Less strength and complexion</td>
</tr>
<tr>
<td>Mid May - mid Jun</td>
<td>Hedychium coronarium Koenig (Lokle) &amp; Alpinia nigra (Gaertn) Burt.</td>
<td>Urinary trouble and gastroenteritis</td>
</tr>
<tr>
<td>Mid Jun - mid Jul</td>
<td>Oenanthe javanica (Blume) DC. (Komprek) &amp; Polygonum barbatum L. (Yellang)</td>
<td>Urinary trouble and gastroenteritis</td>
</tr>
<tr>
<td>Mid Jul - mid Aug</td>
<td>Plantago erosa Wall. (Yempat) &amp; Picropermum acerifolium (Kavka) &amp; Citus reticulare Blono. (Komla), Agarica campestre L. (Chengun) &amp; Lastarius princeps Berk. (Chengun)</td>
<td>Urinary trouble and gastroenteritis</td>
</tr>
<tr>
<td>Mid Aug - mid Sep</td>
<td>Hedychium coronarium Koenig (Lokle) &amp; Alpinia nigra (Gaertn) Burt. (Pulitei) Sagittaria sagittifolia L. (Koukha)</td>
<td>Stomach trouble</td>
</tr>
<tr>
<td>Mid Sep - mid Oct</td>
<td>Aloaxis indic Schott. (Pangkghok) Lecus aspera Link., Knosia roshbaghii (Yembuan), Pogostemon parvusicae (Tekla)</td>
<td>Skin disease and nervous problem</td>
</tr>
<tr>
<td>Mid Oct - mid Nov</td>
<td>Cucurbita maxima Duch. (Mairel), Houttuynia cordata Thunb. (Tokningkoking)</td>
<td>Sore throat</td>
</tr>
<tr>
<td>Mid Nov - mid Dec</td>
<td>Brassica rapa (Hangam), Centella asiatica (L.) Urban (Peruk), Lentissis conatus Berk. (Uyen) &amp; Lentissis squarrosideus Mont. (Uyen)</td>
<td>Skin diseases and gum problems</td>
</tr>
<tr>
<td>Mid Dec - mid Jan</td>
<td>Luffa cylindrica (L.) Roem. (Sebot), Trichosanthes anguina (L.) (Sebot-linambui)</td>
<td>Gum disease and weakness</td>
</tr>
<tr>
<td>Mid Jan - mid Feb</td>
<td>Schima wallichii Choisy (Usoi), Teenoschium oitgihit Beddome (Nat), Cephalostachium capitatum Munro (Nat) shoots (Sojitin), Paephocharpus tetragonolobus DC. (Tengnonnumabui)</td>
<td>Gastroenteritis, gastritis</td>
</tr>
<tr>
<td>Mid Feb - mid Mar</td>
<td>Wendlandia indutuata DC. (Phelija), Alternanthera sessilis (L.) R.Br. ex DC. (Phakchhet), Plantago erosa (Yempat)</td>
<td>Dermatological problems</td>
</tr>
<tr>
<td>Mid Mar - mid Apr</td>
<td>Dolichos lablab L. (Hawai-thangpuk), Lysimachia parvifolia Franch (Kengo)</td>
<td>Leucorrhoea or white discharge</td>
</tr>
</tbody>
</table>