

The Importance of Conservation of Indigenous Plant Knowledge: A Select Study of Plant Species Culturally Used By the Karbi Community of Karbi Anglong District, North-East India.

Author Information:

Kliret Terangpi, Research Scholar, Department of Botany, Assam Don Bosco University, Tapesia Gardens, Kamarkuchi, Sonapur-782402, Assam, India. Email id: tkliret@gmail.com

Abstract:

The North-East region in India is already recognized as a major hotspot of biodiversity with a vast range of flora and fauna. The region extends from the plain areas such as the Barak-Brahmaputra Valley of Assam to the mountainous regions of Nagaland and Arunachal Pradesh. The population in the region is just as diverse as its biodiversity with people residing in plain areas as well as in the hilly and mountainous areas. The vast forest area and availability of forest resources provide food, medicine and to some extent, livelihood for the different indigenous people residing in the region and hence their dependency and relationship with forest resources is tight knitted. The Karbi tribe is an ethnic community residing in the Karbi Anglong district, Assam of the NE region. Their knowledge of forest resources, familiarity with the intricacies associated with it, utilization of various plants found in the natural habitats for everyday purposes along with owning small, micro-farms have made them quite adaptable to the hilly environment. In the past, the Karbis mainly resided in the mountainous and hilly areas but in order to access better facilities, most of the people have migrated and settled in the plains. The era of connectivity and urbanization have affected the forest areas which have gradually led to the loss of plants in their wild natural habitat, some of which holds a significant cultural identity and religious beliefs. In the present day, a majority of the younger generation have shifted from their old ties and traditions which might have contributed to the loss of knowledge about plants used for various purposes and certain indigenous practices.

Keywords: N.E region; The Karbis; Cultural and Religious Beliefs; Medicinal Plants

Introduction:

For centuries, plants have contributed to fulfilling the different needs of humans from their food, protection, medicines and livelihood which represents the tight knit relationship of human interaction with nature and its resources. In developing countries like China and India, plants have a huge impact as medicines for indigenous people especially those residing in rural areas as they incorporate the various parts of plants in their traditional medicines and practices to treat minor injuries and ailments. There are a number of traditional systems of medicine practiced in India but among them, the most widely accepted and recognised systems are namely Ayurveda, Siddha, Unani apart from Homeopathy, Yoga and Naturopathy (Shakya, 2016, Chauhan, 2020). In India, the earliest use of plants for medicinal purposes was documented in the Vedas around 4500-600 BC which represents the oldest repository of human knowledge comprising of 67 plant species (Pei, 2001) and recently, Chauhan 2020, have stated that the country has a rich flora and fauna cover and hence, is an inventory for more than 20,000 plant species having different medicinal properties but 7% of the flora are on the verge of extinction however, in recent years there has been renewed interest and ongoing research about the pharmacological effects found in medicinal plants which may lead to rediscovery of new drugs or medicines for the management of healthcare (Shakya, 2016). Like their ancestors did in the past, majority of the population worldwide are gradually going back to their roots of using by-products such as medicines or cosmetics sourced from nature as they are stated to have lesser harmful side-effects as compared to the synthetic drugs and cosmetics widely found in the markets.

The North-east region of India contributes a significant proportion to the medicinal plants repository in India and hence it is recognised as one of the major hotspots of biodiversity. This region comprises of eight states and it is inhabited by more than 180 major tribal communities out of the total 427 tribal communities found in India (Sajem, Rout and Nath, 2008). The different indigenous people of the region have a close relationship with plants and are dependent on plants to serve the various purposes in their daily lives in the form of food, medicines, livestock feed and livelihood and therefore the plants have both economical value as well as medicinal value. Apart from its commercial and medicinal value, each different tribe in the region have their own unique interpretation of utilizing plants in their tradition, customs and culture, in religious rituals and ceremonies or festivals. Karbi Anglong is a hill district situated in the North-east region, Assam and the geographical area covered by the district is 10, 434 sq km while its geographical distribution is between 92°10'–93°50' E and 25°33'–26°35' N. The district comprises of two different areas—the western part, which is also known as Hamren sub-division and the eastern part which comprises of Diphu and the Bokajan sub-division (Basumatary, Teron and Saikia, 2014). There are many different tribal communities residing in the district but the Karbi tribe is the major ethnic community of the district and the local dialect spoken by this particular ethnic group is known as Karbi. They are deeply rooted with nature and its resources to meet their daily requirements which has contributed to their vast knowledge of wild and medicinal plants and incorporating them in traditional medicines for treating minor injuries and ailments, especially those inhabiting in the rural and hilly areas that don't have immediate access to modern facilities and the synthetic medicines. Originally, the Karbis are animist in nature and they offer their prayers to unseen and territorial spiritual beings as they believed that everything in the universe from that can be seen and feel such as the sun, moon, sky, forest, rain, wind, stream, hill, fire or house have their own individual spirit. The Karbis who stills follows the traditional religious practices are known as *Aron Ban*, said to be the worshippers or followers of '*Hemphu-Mukrang-Rasinja*' and hence preferably called themselves as '*Hemphu-Mukrang Aso*' literally meaning the child of *Hemphu* and *Mukrang* and therefore, plants and animals play an essential role in all the religious rituals and ceremonies of the Karbis (Timung and Singh, 2019). *Jhum* cultivation is widely practiced by the tribal community, especially by those residing in the hilly areas.

The Karbis also have their own traditional attire where the Karbi women attire consists of four parts consisting of a cloth covering the lower part which is known as *pini* (wore from the waist to ankle length), *vangkok* is a thin strap of cloth used to tie the *pini* around the waist, the upper part of the body is wrapped with the a cloth called as *pekok* and lastly, the cloth used as blouse is called as *jiso*. The attire of the Karbi men is usually consist of two parts where the cloth covering the upper part of the body is known as *Choi Hong-thor* and the long piece of cloth covering the lower part is known as *Rikong* (the loin cloth). In recent years, the younger generation in urban areas have replaced the *Rikong* by a pair of pants and a jacket with a Karbi motifs is wore over it however, in some remote areas, *Rikong* still exists even in today's time. In the past, majority of the Karbis inhabited in the hilly regions with easy accessibility to forest resources around them and would dye their most of their cloth with colours obtained from natural sources such the indigo dye is produced using the leaves of *Sibu* or *Bujir* (*Baphicanthus cusia* Wall) or the yellow dye is obtained by continuously boiling the skin of *Citrus grandis* (L.) Osbeck called as *Ruibap* in the local language. The traditional attire is woven using traditional techniques and loom which consists of several components such as *Har-pi*, *The-ning*, *The-hu*, *The-langpong*, *Ah-hieh*, *Edoi*, and *Barlim*. Almost all the components are craved from bamboo but the *Har-pi* is made from the wood of *Caryota urens* Linn. known as *Dok-kichu Arong* in the local dialect.

Cultural identity of the Karbi tribe, *Jambili Athon*

The traditional symbol of the Karbi tribe is known as *Jambili Athon*, which is usually made during the death ceremony observed by the Karbis, known as *Chomangkan* and among the other festivals or ceremonies, it is considered as the most expensive festival of the Karbis (Teron, 2008). This festival is held to honour the many generations of ancestors who have passed away to ensure a safe passage for their

souls to reach the village of the afterlife known among the locals as *Chom Arong*. It is believed that if the *Chomakan* festival is not held properly then the souls or spirits will wander on earth and never reached the village. Therefore, the festival is celebrated only after meticulous planning and with upmost care for it to be successful and it goes on continuously for 4-5 days from dusk to dawn without any breaks in between, where the dead songs are sang and ritual rites are chanted by the elderly women (religious women). During *Chomangkan*, only the women who are very experienced in the rituals of the festival are allowed to carry out the death festival. The women who carried out the ritual wailing during *Chomangkan* are known as *Lunsepi* and *Uchepi* are those women who are responsible for prepared the meals for the dead ancestors the women responsible for playing the traditional karbi drums called *cheng* are known as *Duhuidi*. *Jambli Athon* which is used for the death festival *Chomangkan*, can only be made using the wood of *Wrightia arborea* (Densst.) Mabb. and few of the local informants mentioned that in the past, after craving the Jambili Athon, it is kept aside for several weeks and the wood eventually blacken on its own but nowadays, as the symbol has become part of cultural identity for the Karbi tribe, it is craved in large scale and dye with a synthetic black dye. It can be seen in almost every household of the Karbis, even if it is miniature version and which have added a commercial value to it.

Se-Karkli, An important religious ritual of cultural identity

There are many religious rituals and ceremonies or festivals observed among the Karbi tribes such as *Chomakan*, *Chojun* and *Rongker* which are both a socio-religious ceremonies and where the whole community or an entire village comes together but *Se-Karkli* is the most significant among them as it is only practiced by the Karbi tribe which contributes to the cultural identity and is carry out for the well being of one family or an individual. *Se-Karkli* is a religious ritual where the prayers and offering of a sacrifice is carried out to appease the various deities or supernatural beings that the Karbis believed in such as the sky god. *Arnam* literally means God in the local dialect, and among all the supernatural beings, *Hemphu Arnam* is the most dignified and supreme god of the Karbis. The religious ritual can only performed be by the religious men (priest) known as *Kurusar*, and few of the *Kurusar* are also traditional practitioners or healers owing to their vast knowledge of wild and medicinal plants. After a bath, the *Kurusar* is not allowed to consume any solid foods until the ritual is completed nor is he allowed to stop reciting the religious chants once he starts. He have to complete reciting one chant and only then, does he take a rest before beginning a new chant. There are several components needed during *Se-Karkli* and it is obtained from various plants which are prepare beforehand such as the *hor alang* stored in the bottle gourd (*Langenaria siceraria* Standley), fresh powdered rice mixed properly from water, the young and slender stalk from a particular bamboo species which is known as *kaipho* (*Dendrocalamus hamiltonii*), the resin of *hijung ke-ik* (*Canarium resiniferum* Brace ex. king), the leaves of banana (*Musa*) locally called as *Loh* or *Lothe Arvo* and the leaves of *tuluhi* (*Ocimum tenuiflorum*) are some of the plants used for performing the ritual. These plant parts used in the ritual have different purposes and meanings such as the leaves of banana is used as a platter to keep the offerings, *tulukhi* is used for purifying the water, resin of *hijung ke-ik* is ignited as a form of incense when the sacrifice is offered and smoke have to be emitted from the resin continuously until the ritual is completed.

Hor, an important alcoholic beverage of the Karbis

The alcohol beverage of the Karbi tribe known as *Hor* plays an integral role in their socio-cultural life as it is used in many cultural and religious ceremonies as well as in various occasions or celebrations. There are several ingredients and process involved in the preparation of *Hor* and the ingredients mainly comprises of different plants. The locally prepared rice cake known as *thap* is the yeast starter for the alcohol and it is prepared by pounding the soaked rice together with the leaves of *Croton joufra* Roxb., known as *Marthu*, is added to the mixture along with the bark of *Acacia pennata* Willd. commonly known as *Themra* (Teron, 2006) but sometimes the leaves of *Jangphong*, commonly called as jackfruit (*Artocarpus heterophyllus* Lamk.) can also be added to the mixture. The mixture is then shaped into little rice balls and allowed to dry for 3-4 days before it is used for the preparation of traditional rice-beer.

There are two types of *Hor* observed in Karbi culture which are known as *Hor Alang* and *Hor Arak* specifically. The former one is prepared by soaking the cooked rice which is already mixed with *thap* in cold water for 2-3 days in a pot and especially preferred to be drunk in summer season as it have a cooling effect on the body. For the latter one, the soaked rice mixed with the *thap* is kept for maximum of 5 days before it is cooked over the fire for several hours where the steam is allowed to accumulate which leads to the production of the distilled alcohol. The Karbis uses *Hor Alang* more than *Hor Arak* for several occasions such as in performing the various cultural and religious rituals such as *Seh Karkli*, *Chojun* and *Rongker*. The traditional marriage of the Karbis known as *Adam-Asar* is incomplete without *Hor Alang* which is stored in *Bongkrok* is made from the dried and empty shell of the bottle gourd, *Langenaria siceraria* (Mol.) Standl. and depending upon the occasion, the different size and shape of the bottle gourd serves different purpose. The larger one is preferably used for the marriage ceremonies whereas the smaller one is used for *Se-Karkli* (Teron, 2005).

The present study was undertaken among the Karbis residing in Diphu town situated in Karbi Anglong district of Assam where its adjacent areas such as Rongjangphong, Lorulangso-II, Ram Teron Village, Rongkhelan was visited during June 2021-August 2021. Information was gathered from traditional healers, religious practitioners '*Kurusar*' and among the locals based on unstructured interviews and personal observations. Few of the questions asked during the interview are as follows:

- 1) What are some of the plants and its parts used in religious rituals and ceremonies in Karbi culture?
- 2) Are they taboos or beliefs involved when performing the religious ritual?
- 3) What are some of the reasons that have caused loss of traditional knowledge and traditions among the Karbi youth?
- 4) Among the plant species mentioned, are there any plants which are used in the preparation of traditional medicine?
- 5) Other than being used in Karbi tradition and customs, are there any other uses of the selected plant species?

From the adjacent areas of Diphu, a total of 25 respondents were randomly selected with the age groups of between 27-56 years consisting of 10 males (4 of them are traditional practitioners) and 15 females were interviewed in this purpose. Prior to the interview, the purpose of the study was explained along with the verbal consent from each of the informant. The information along with photographs of the plant species was documented along with referring to relevant past articles and literatures for the identification of the selected plant species encountered during the field visits.

Results:

Although the selected plants play a significant role in the cultural identity and traditions of the Karbi tribe, few of them are also used as medicine by the traditional healers or practitioners also known as *Kurusar* who incorporates the various parts of the plant in traditional medicines for treating minor injuries or ailments. The plant species are enumerated in alphabetical order with information regarding its botanical name, vernacular name, part of the plant used as medicine and lastly, the preparation and uses of the plant species have been mentioned below.

I. Botanical name: *Acacia pennata* Willd.

Family: Mimosaceae

Vernacular name/ Local name: Themra

Parts used: Bark, Leaves

Mode of preparation and uses: The bark is dried properly and pounded together with the *thap* until a fine powder is obtained. This powder is put directly on the wound which stops the bleeding and then a clean cloth is bandaged over it.

II. Botanical name: *Canarium resiniferum* Brace ex.King

Family: Burseraceae

Vernacular name/ Local name: Hijung ke-ik

Parts used: Resin

Mode of preparation and uses: The resin is crushed into a fine powder which is pounded together with fresh turmeric (*Curcuma longa* Linn.) until a fine paste is obtained which is applied to wounds and boils and bandaged with a clean cotton cloth.

III. Botanical name: *Dendrocalamus hamiltonii*

Family: Poaceae

Vernacular name/Local name: Kaipho

Parts used: Whole plant

Mode of preparation: The outer or inner of the bamboo is scarped continuously with the help of a knife until a fine powdery substance is obtained which is applied directly on minor cuts and injuries to stop the bleeding.

IV. Botanical name: *Wrightia arborea* (Densst.) Mabb.

Family: Apocynaceae

Vernacular name/Local name: Bengvoi ke-lok

Parts used: Bark

Mode of preparation and uses: A thin layer is scraped carefully from the bark and grinded into a fine paste. The paste is applied directly onto the skin to treat boils.

Discussions:

Bamboo, which is a versatile plant species known to mankind has been used by the Karbi tribe for ages for various purposes that there is even an original myth about bamboo called as *Chek keplang* found in the Karbi folk songs called as *Chek keplang alun* which has been told from one generation to the next generation through oral tradition (Singha and Timung, 2015). The particular bamboo species, locally known as *Kaipho* is extensively used by the Karbis as food, medicine or shelter to crafting artifacts and objects used in their daily lives. Karbi houses called as *Hem Theng-song* (meaning house build on top of a wood or tree), mostly seen in remote, rural areas are entirely build using bamboo from the flooring and doors to the walls and ceilings. To gain entry to the house, the ladder called *Don-Don* is also made using bamboo. Some of the cultural artifacts and objects weaved by the Karbis from *Kaipho* are *Beleng* (it is a large circular mat bind with cane splits around the rims often used for winnowing paddy and rice. It is an important element during *Chojun*), *Hak* (it is a cylindrical basket that comes in various sizes is mostly

used for carrying jhum by-products other than being used for special occasions and festivals. During *Adam-Asar*, it is customary to carry the *bongkrok* filled with *horlang* in *Hak* as part of marriage ritual), *Vo-um* (it is a cage for domestic fowls which comes in various shapes and sizes), *Tar* (bamboo mat) and therefore, it can be stated that the bamboo is a very valuable plant resource for the Karbis (Teron and Borthakur, 2012). Edible food items also are prepared from the young bamboo shoot called as *Han-up* which acts as a souring agent in meat dishes especially in pork and fish. *Themra*, which is sold in the local markets mainly by the women of Dimasa tribe, is one of the most important ingredients needed to make *thap* which is used to fermenting the cooked rice before the alcohol beverage is prepared.

Other than having a diverse culture and traditions, the Karbis also have a vast knowledge of wild and medicinal plants that are widely used in traditional medicines and practices as part of their primary healthcare. The traditional knowledge are accumulation of fore-fathers knowledge, personal experiences with all the trials and errors which are passed down orally from one generation to the next generation and hence, there are no proper written records or documents to be found. On the other hand, the human population is increasing worldwide and the demand for more living spaces and food production are eventually leading to more tampering and loss of natural habitats. Nowadays, medicinal plants in their crude condition are being destroyed or lost when the natural habitats are cleared for building different infrastructures and more emphasis are taken for growing cash crops such as wheat or sugarcane. Degradation of the natural habitats due to farming and lack of awareness about the importance of the plant is also one of the main reasons why the population of plant species have decline in their numbers in their wild habitats.

Conclusion:

There is still a huge scope to explore the plants used by different indigenous people in the region from the aspect of religion, socio-cultural festivals or rituals and medicines and documenting those information will be helpful in the long run as most of younger generation of 21st century have no interest in following the foot-steps of the older generation such as learning the ritual chants of one's tradition or gaining the knowledge of preparing traditional medicines from plants because there is no huge benefits and considered not important in this era of connectivity and urbanization where the younger generation are in search of better opportunities to improve their lives. For centuries, the traditional knowledge of medicinal plants and practices are passed down from one generation to the next generation of traditional practitioners or healers through oral interaction. There is also secrecy and reluctance among the traditional healers in sharing the information of the medicinal plants with the local people and hence only a few numbers of written records or documents can be found but over the years there has been renewed interest about plants used in traditional medicines as well as research to extract the crude material of the medicinal plants which can be use for the improvement and discovery of new drugs and medicines which will be beneficial for human health-care in the present and future. Considering the present scenario, the human population are becoming aware of using the products sourced from nature as it has been observed that they caused lesser or negligible side-effects on health as compared the allopathic medicines and hence most of the people are going back to their roots and using natural products in their daily lives just as their ancestors did before. However, the great demand for natural products and medicines has led to the decline and loss of some medicinal plants in their wild habitats gradually but efforts to conserve the environment and the medicinal plants is carried out by little percentage of people and organisations. The people in rural areas should be made aware about the importance of medicinal plants in their wild habitats and at the same, there is an urgent need to rediscovery and development of new approaches and techniques which can aid in their conservation and preservation of their germplasm so that there is a sustained supply of raw materials for future demands and research.

Recommendations:

No recommendations.

Figures with Captions:

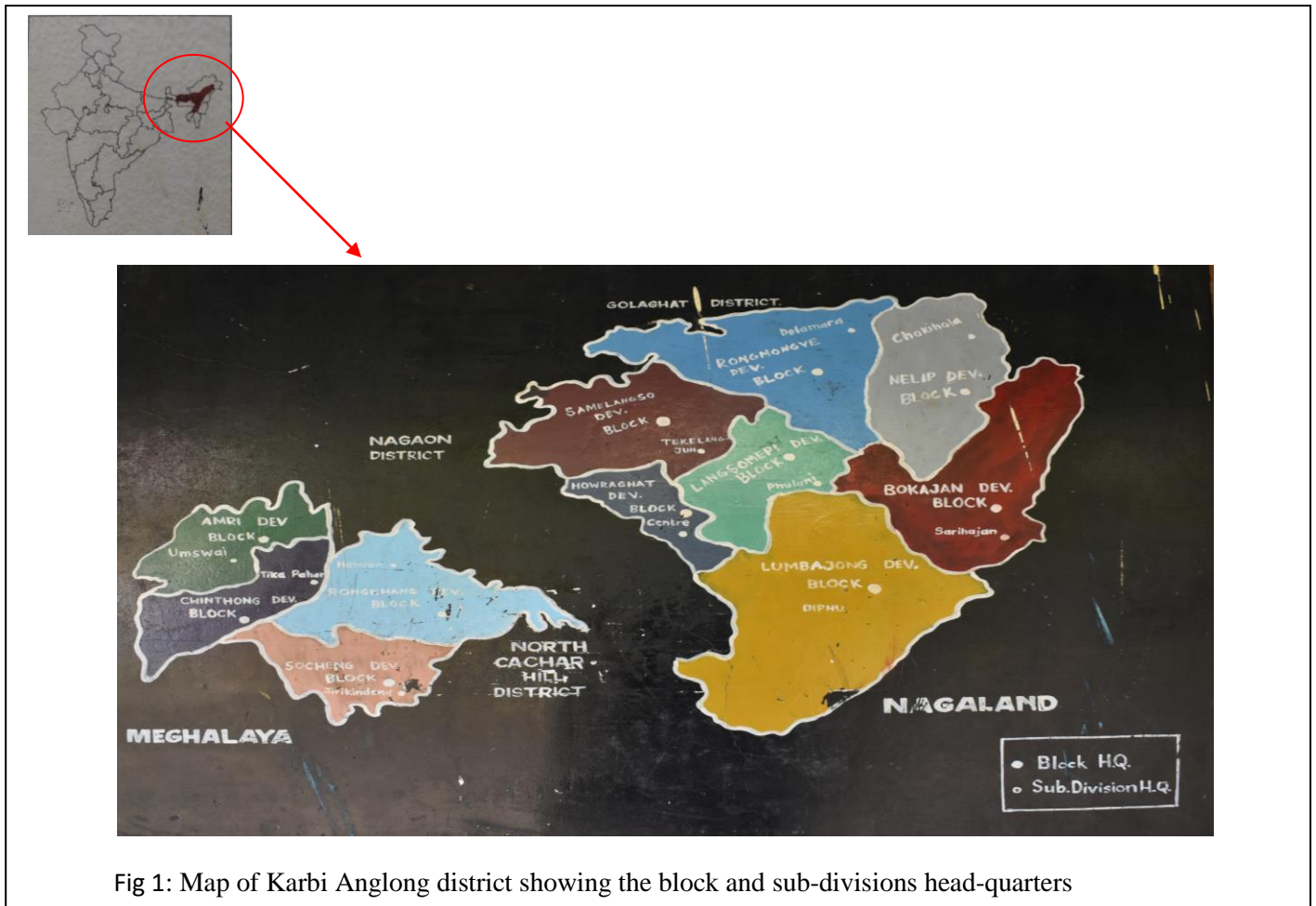


Fig 2: The symbol of cultural identity of the Karbi tribe, *Jambli Athon* which is also showcase in the modern attire such as in jacket and necktie wore by the Karbi men on special occasions.



Fig 4: Preparation of different plant species to be used in the religious ceremony, *Se-Karkli*



Fig 2: The weaving of the traditional attire of the Karbi women '*pekok*' using *Har-pi* made from *Caryota urens* Linn



Fig 5: The important traditional ceremony of the Karbi tribe , *Se-Karkli* performed by the religious person, *Kurusar*



Fig 6: Steps involved in the production of *Hor Arak* prepared by a Karbi woman

Funding Source:

Not applicable.

Conflict of Interest:

There was no conflict of interest.

Not applicable.

Acknowledgement:

The author is thankful to all the traditional, religious practitioners and local informants for their hospitality and for sharing their valuable knowledge regarding the importance of plants in traditions and culture of the Karbis

References:

- Basumatary, N., Teron, R. and Saikia, M. (2014). Ethnomedicinal Practices of the Bodo-Kachari Tribe of Karbi Anglong District of Assam. *Int. J. Life Sc. Bt. & Pharm. Res.*, 3(1): 161-167
- Chauhan, K. (2020) Role of Ethnobotany on Indian Society: A review. *Journal of Arts, Culture, Philosophy, Religion, Language and Literature*, 4(2): 109-111.
- Eol.org. 2021. *Pomelo articles-Encyclopedia of Life*. [online] Available at: <<https://eol.org/pages/488254/articles>>[Accessed 31 August 2021].
- Pei, S. (2001). Ethnobotanical Approaches of Traditional Medicine Studies: Some Experiences from Asia. *Pharmaceutical Biology*, 39(1): 74-79. Doi: [10.1076/phbi.39.s1.74.0005](https://doi.org/10.1076/phbi.39.s1.74.0005).
- Sajem, A.L., Rout, J. and Nath, M. (2008). Traditional Tribal Knowledge and Status of Some Rare and Endemic Medicinal Plants of North Cachar Hills, District of Assam, Northeast India. *Ethnobotanical Leaflets*, 12: 261-275.
- Singha, N.K. and Timung, L. (2015). Significance of Bamboo in Karbi Culture: a Case Study among the Karbi tribes of Assam (India). *International Journal of Advanced Research in Biology and Bio-Technology*, 1(1): 1-9.
- Shakya, A.K. (2016). Medicinal Plants: Future Source of New Drugs. *International Journal of Herbal Medicine*, 4(4): 59-64.
- Teron, R. (2006). Hor, the Traditional Alcoholic Beverage of Karbi tribe in Assam. *Natural Product Radiance*, 5(5): 371-388.
- Teron, R. (2008). Traditional woodcraft, Jambili Athon of the Karbis. *International Journal of*

Traditional Knowledge, 7(1): 103-107.

Teron, R. and Borthakur, S.K. (2012). Traditional uses of bamboos among the Karbis, a hill tribe of India.

Bamboo Science and Culture, 25(1): 1-8.

Timung, L. and Singh, N.K. (2019). Cultural Implication of “Chinthong Arnam” Ritual Practice and the Significance of Plants and Animals: A Case Study among the Karbis of Assam, India.

International Journal of Interdisciplinary Research and Innovations, 7(2): 332-340.