



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

INTERNATIONAL JOURNAL
OF CURRENT RESEARCH

International Journal of Current Research

Vol. 16, Issue, 05, pp.28283-28289, May, 2024

DOI: <https://doi.org/10.24941/ijcr.47228.05.2024>

RESEARCH ARTICLE

TRADITIONAL ENVIRONMENTAL MANAGEMENT OF THE KHASIS OF MEGHALAYA: A CASE STUDY OF THE MARPNA PROTECTED FOREST

Banshaikupar Lyngdoh Mawlong

Assistant Professor, Dept. of Political Science, Union Christian College, Meghalaya

ARTICLE INFO

Article History:

Received 20th February, 2024

Received in revised form

25th March, 2024

Accepted 14th April, 2024

Published online 23rd May, 2024

Key words:

Environment, Environment Management, traditional institutions, Nature, sacred and protected forest, environmental degradation.

*Corresponding author:

Banshaikupar Lyngdoh Mawlong

Copyright©2024, **Banshaikupar Lyngdoh Mawlong**. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: **Banshaikupar Lyngdoh Mawlong**. 2024. "Traditional Environmental Management of the Khasis of Meghalaya: A Case Study of the Marpna Protected Forest". *International Journal of Current Research*, 16, (05), 28283-28289.

ABSTRACT

The state of the environment has direct impacts on human lives and development. In fact, environmental conditions has never remained static, it changes in time and space. Further, the unprecedented growth of human population, unsustainable economic development, the absence of an efficient environmental management model and the lack of political will has resulted in an alarming rate of environmental degradation. An efficient environmental management mechanism involving all stakeholders is, thus, the foremost and mandatory requirement in environmental conservation and management. One of the features of the environmental governance structure in the Khasi Hills of Meghalaya is the existence and the indispensable role of traditional institutions at the local level, besides the state machineries. This paper will attempt to examine traditional the environmental management practices and the efforts undertaken in the Marpna protected forest in Meghalaya.

INTRODUCTION

The interaction between human societies and nature has spanned thousands of years. It has been suggested that humans moved from place to place collectively at an average of about 200 miles per year in their earliest migrations (Lerner:1). However they also became attached to specific landscapes. Environment thus played a major role in the construction of culture and in cultural variation. For example, the Inuit culture is shaped by its Arctic environment and hence it differs from the culture of East African peoples of the Serengeti plains. Inuit technology allowed adaptation to extremely cold temperatures of a world of ice and snow and provided specialized tools of bone and stone for fishing and hunting seals. On the other hand the freshwater lakes of East Africa provided vastly different conditions for establishing scavenging, hunting and fishing technologies in its warm, prehistoric wooded savanna and grassland environment (*Ibid*). Human cultures have shaped and in turn been shaped by local ecosystems and their constituent parts. This symbiotic relationship between culture and nature has been an active and lively area of research among scholars (see Pretty et.al.: 2009:100). Humans have an intrinsic need to set their lives in a wider context and nature manifested as the local environment can provide this (Pilgrim: 2009:5).

In indigenous and non-industrial communities most people retain much stronger links with the natural environment through resource use and management. For these societies, nature and the local environment provide not only the landscapes in which human activities take place, but play a pivotal role in belief systems, cultural activities and livelihoods (*Ibid*). The Brundtland Commission Report (Report WCED,1987:98) acknowledged the contribution which the indigenous people are able to make in the area of sustainable development and endorsed aboriginal self government with regard to natural resources. It noted that these communities (so called indigenous or tribal peoples) are repositories of vast accumulations of traditional knowledge and experience that links humanity with its ancient origins. Their disappearance is a loss for the larger society, which could learn a great deal from their skills in sustainability managing very complex ecological systems. The report further noted that it is a terrible irony that as formal development reaches more deeply into rain forests, deserts, and other isolated environments, it tends to destroy the only cultures that have proved able to thrive in these environments. Traditional knowledge systems have sought optimal utilisation of their environment against the backdrop of cultural tenets. Such research has produced rich literature on how societies have maintained this balance in the culture-

environment narrative. Nongbri (2006:3) notes that the ecological perspective is grounded on the belief that nature and culture are closely related. Over centuries communities who have lived close to nature have learnt to evolve with nature, “adapting to its varied moods and judiciously drawing from its bounties to meet their material and spiritual needs”. Nature is not only a source of their sustenance but also a source of their identity. Pretty (2008) notes that nature and culture converge in various ways that touch upon values, beliefs and norms to practices, livelihoods, knowledge and languages. As a result, there exists a mutual feedback between the cultural system and the environment and a shift in one often leads to a change in the other. Nature provides the setting in which cultural processes, activities and belief systems develop all of which feed back to shape biodiversity. She further notes that there are four key bridges that link nature with culture:

- **Beliefs and worldviews:** culture is understood as a system by which people interpret the world around them.
- **Livelihoods and practices:** culture shapes biodiversity through the selection of plants and animals and the reworking of whole landscapes to suit human needs.
- **Knowledge bases:** cultural practices and worldviews are shaped by knowledge of nature, often referred to as traditional/indigenous/local/ecological knowledge. Such knowledge accumulated within a society is transferred through cultural modes such as stories and narratives.
- **Norms and institutions:** Ecological knowledge also gives rise to socially embedded norms and regulations. These norms govern human interactions and behaviors towards the natural environment and have often co-evolved to sustain both people and nature (Pretty: 2008).

It has also been observed that the most valuable assets of any traditional community are its lands and its culture. These assets are inextricably linked and one cannot exist without the other. It is also pointed out that even when considered as a dichotomy, it is clear that nature and culture converge on many levels that span belief systems, social and institutional organizations, norms, stories, knowledge, behaviours and languages. As a result there exists a mutual feedback between cultural systems and the environment (Pilgrim, 2010:1). Ramakrishnan (2001:109) notes that it is widely recognized across the globe and across disciplines that regions of ecological prudence exhibit a symbiotic relationship between habitats and culture. Societies that live close to nature and natural resources which include tribal societies/indigenous people, have evolved with their environment, modifying nature but actively maintaining it in a diverse and productive state. This is done on the basis of their indigenous and ancient knowledge, and through their symbolic recognition of nature in their socio-cultural practices and or religious beliefs. Indigenous knowledge was acknowledged in the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC) as *an invaluable basis for developing adaptation and natural resource management strategies in response to environmental and other forms of change* (IPCC, 2007). This recognition of the importance of indigenous knowledge was reaffirmed at several other discussions of IPCC as well as at the Cancun Conference of 2010. The outline of the IPCC’s Working Group II contribution to the Fifth Assessment Report (AR5) includes local and traditional knowledge as a distinct topic within Chapter 12 on human security (Nakashima, D.J. et.al,

2012:6). The Khasi of Meghalaya is one such community where the relationship between culture and environment has displayed a distinctive functional value. Nongbri (2006:1) writes:

More importantly the merit of indigenous systems of beliefs for the preservation of the ecological system are seen in the local reverence for parts of nature like sacred groves and such trees and natural objects as are considered sacred. It is such beliefs that had led to the sustained relationship between man and nature that preserved both for centuries; Nature is, thus, an oasis of knowledge and wisdom. It is a living treasure to which great care, observation and respect must be given. Culture has a very important role in the individuals’ attitude towards the environment (Thangkhiew, 2015:71). There exists a close relationship between nature and culture. In learning how to live off the land, human communities have developed and refined knowledge, skills and tenure systems that still persist in many non-industrial communities (Turner & Berkes:2006: 495-513). This extrinsic physical dependency has evolved in line with a more intrinsic dependency. Many indigenous societies have evolved spiritual beliefs, ceremonial traditions, sacred designations and worldviews based on their own lands. Hence both personal and cultural identity are intertwined with the physical landscape and nature as a whole (Pilgrim, 2009:5). Over centuries communities who have lived alongside nature have evolved along with nature, adapting to it and prudently extracting from its various resources to meet their requirements. Nature thus becomes their provider of both material and spiritual needs. This fact comes forcefully among the Khasi whose lifestyle, livelihood, beliefs and identity as a people sharply bear the imprint of the natural landscape (Nongbri, 2006:3).

Khasi Understanding of Nature and Environment: The unity of nature and culture has a profound thrust in Khasi thought. Myths regarding the Khasi conception of nature and human life may be regarded as irrational, prelogical or mystical but by no means are they devoid of any rational meaning (Ramsiej:2006:34). The ancient Khasi rejected the classification and systematization of the world of plants and animals from the world of man. To him life is not divided into classes and sub-classes but is an unbroken continuous whole which does not admit any clear cut distinction – let us say between culture and nature. The limits between the different spheres of nature and culture are not insurmountable barriers, they are fluent and fluctuating, there is no specific difference between the various realms of life. A Khasi does not lack the ability to grasp the empirical difference of things. In his conception of nature and life all these differences are obliterated by a stronger feeling: the deep conviction of a fundamental and indelible solidarity of life that bridges over the multiplicity and variety of its single form. He does not ascribe to himself a unique and privileged place in the scale of nature. Life possesses the same dignity in its highest and lowest forms. Men and animals, animal and plants are all on the same level. What is more there is a constant communication between them (*Ibid*:35-36). In the Khasi world view the environment is referred to as *Mei Ramew* (mother earth) and it includes *Mariang* (nature or earth), celestial bodies such as *Sngi* (sun), *Bnai* (moon) and *Khlor* (star) and *khunbynriew* (human inhabitants) (Nongkynrih, 2012:45). *Mariang* (nature or earth) comprises of many elements. These include,

a. *Ki khlawkibtap*, forest lands which includes *kidiengkisiej* (trees and bamboo); *kisyntiewkiskud* (flowers); *kiphlangkikynbat* (grasses and medicinal plants or herbs); *ki sim kidoh* (birds); *kikhñiangkibsiyah* (insects and reptiles); *kingapkitung* (bees, wasps, flies); and *kimradkimreng* (animals); *Ki khyndewkishyiap*, lands which include the subterranean and topography; *Ki lumkiwah*, lands which include hills or peaks, rivers, springs, streams, and ponds; *Kalyer*, the air or the wind and *Kaporkasamoi*, the seasons (*Op.cit.*: 45).

The environment comprises of three parts, mother earth and nature, celestial bodies and human beings. These three parts taken together would constitute the “whole”; and parts are connected with one another through the “whole”. A Khasi believes that human beings and the environment are closely connected. The environment gives us our identity of living in a definite territory and it sustains our livelihood and other aspects of social life such as our knowledge, our history and our connection with our ancestors is based on it (*Ibid.*: 45). The Khasi, like the other tribal groups in North East India have a rich oral tradition which they pass on from generation to generation in the form of narratives. Such narratives embody ethical values, attitudes and orientations of the community towards itself and its members, towards others and also towards its environment. Prior to the advent of the British, the Khasi had no written script. Hence oral tradition became very vital in transmitting knowledge of every kind to posterity. It was the only way by which the Khasi perpetuated the events of the past. Nature became to them a book on which they recorded the history of their own existence on these hills (Mawrie, 2009:16). From the olden days even to this very day, moral lessons are taught to the children by the elders never by writing but verbally, by means of stories (Mawrie, 2014:68). At night, when the earth is still and the hearth is warm, the elders gather their children around them and through stories (*kipuriskamand khatanang*) they instruct the young. These stories are mostly based on the things of nature, on birds, animals, plants, rivers and mountains (*Ibid.*). The Khasi have woven interesting stories to answer basic questions of creation, man and environment. Nongkynrih (2007: ix) notes that

These constitute the creation myths, or what the Khasis call *khatanang*, or sanctified stories. The function of such stories is to elucidate the Khasi philosophical thought on every aspect of Khasi culture and make sure that it reaches and holds captive even the simplest of men. The stories are therefore invested with symbolical significance and deliberately rendered interesting so as to beguile listeners into believing that they are hearing a story and not listening to a sermon. A popular and widely told story is that the Khasi came to their present abode from heaven. Answering the plea of mother earth, *Mei Ramew*, to send someone to be the guardian of the earth and all of its bounty, God summoned a grand council of the sixteen families, *Khathynriew Trep Khathynriew Skumthat* resided in heaven. After due deliberation God chose seven of the sixteen families, *Hynniew Trep Hynniew Skumto* descend to the earth and to be the stewards of all creation while the nine families, *Khyndai Trep Khyndai Skum* remained in heaven. These seven families would later become the ancestors of the seven sub-tribes of the Khasi people, comprising of the Khyndai, Pnar, Bhoi, War Maram, Lyngngam and the now, extinct Diko. As a tangible sign of this covenant, God planted a divine tree on

a sacred mountain, *Lum Sohpet Bneng* (the mount of heaven’s navel), which served as a golden ladder, *jingkiengksiar*, between heaven and earth. This covenant declared that so long as the seven families adhered to the three tenets of *Tip Briew Tip Blei* (knowledge of man and God), *Tip Kur Tip Kha* (knowledge of one’s maternal as well as paternal relations) and *Kamaiiaka Hok* (to earn righteousness in one’s life) they would never be left alone but could come and go as they pleased between heaven and earth through the golden ladder located on *Lum Sohpet Bneng*. This relationship between God and man continued so long as man upheld the tenets of the covenant and upheld the stature befitting his celestial lineage. Man prospered and so did the earth with all its natural bounty. However ensnared by the evil one, greed occupied man’s heart and he began to trample upon the rights of his fellow beings. Displeased by man’s rebellion and failure to uphold his status and the tenets, God severed His ties with man and forever closed the golden ladder to heaven through *Lum Sohpet Bneng*. This story further continues to narrate how man redeemed his place before God through humility and obedience. Bereft of God’s guidance, the seven families remained helpless orphans amidst a new kind of darkness that enveloped the earth. God then made an oak tree, *Dengiei*, situated on another sacred mountain, *Lum Dengiei*, grow to an enormous height and its branches spread so wide that they soon covered the sunlight and darkness was cast upon the earth. Under the dark cover of this tree, wild and ferocious animals made their home. Faced with this spiritual crisis man groped in the dark, he stumbled and fell until he finally turned to God in repentance. Man felled the mighty tree and once again light returned to the earth and the broken relationship between God and man was re-established.

This story depicting the origin of the Khasi, their relationship with God and with nature has passed down through many generations of social filtering thereby rendering several versions of the story itself. Despite these versions the message that emerges is that, a) the sinfulness of man caused a breach in man’s relationship with God; b) the envy and ambition of the evil one (a third person) brought about this breach in man’s relationship with God; c) it was man himself who voluntarily opted to remain on earth (Mawrie:2009:32-33). This story could be easily dismissed as an imaginary tale, a folktale of little relevance. However, viewed from a different perspective it tells of the repository of wisdom and values that the community upholds. It sheds light on the community’s social and cultural philosophy and the community’s strong bond with nature. Mohrmen (2015) writes

The Khasi Pnar traditional wisdom and understanding of nature is not only unique but is also profound. The Khasi Pnar like any of the first nations lived and has been living in harmony with nature. Much before the world talked about the interdependent web of existence, the *Khun u Hynniewtrep* already have their myths and legends which depict equality of all creations. It is believed that in the days of yore, the golden era or the virgin age as we would like to call it, human and animals were not only talking to each other, but they even lived as equal creations of Creator. Nongbri (2006:4) has contemplatively pointed out that while on one hand these myths illustrate the close link that existed between the Khasi (humans) and God, on the other hand they point to the close harmony that characterized the relations

between man and nature. Man's violation of God's laws not only disrupted the direct line of communication he had with the Creator, but his interference with the bounties of nature disturbed the delicate balance between society and the natural environment. Such stories reflect two features inherent in Khasi tradition, a) the people's deep faith in God and aversion to sin and evil; b) the people's respect for nature and the importance attached to ecological prudence.

Mawrie (2009:33-35) further notes that in this story the ecological significance stands out clearly. What is observed is the deep inherent eco-consciousness of the Khasi where he expresses his relationship with God always through creation (the tree). Creation (plants and animals) commands great respect in Khasi religion and culture. In order to depict the spiritual crisis of man after that golden era, the ancient Khasis chose the elements of creation to tell their story. The oak tree, *Dengiei*, with its wide spreading branches and rich foliage symbolized the reign of evil. It covered the sunlight of God's goodness from man. To symbolize the different evils which man indulged himself in, the ancient Khasis used figures of wild and ferocious animals who took shelter under the tree. Khasi belief system does not depict sin in abstract terms but through the possessions of nature. Similarly when man fell to the charms of sin, the whole of creation too shared in this fall and was thrown into complete chaos. And when man was redeemed from sin creation too rejoiced in this redemption. Thus the story of man's sin, repentance, forgiveness and reconciliation has a deep and elemental relationship with nature in the Khasi belief system.

Thangkhiew (2015:72-73) notes that the Khasis, like every tribal group, have a close affinity to nature. For a Khasi, God, Man and Nature form one single and indivisible entity. God takes residence in nature, on the mountains and the hills, in the rivers, the lakes, the forests. God reveals himself through nature and the world that he has created. Man on the other hand, is seen as an integral unit of nature. His relationship with the rest of creation is so elemental; he is the link who communicates with the rest of creation. A Khasi believes in the interdependence or inter-connectedness between man and other beings in nature. He is a part of nature itself. Every aspect of nature has a bearing on the Khasi's overall personality and his relationship with his fellow human beings.

Khasi stories are thus vehicles through which moral lessons on nature and environment are transmitted to posterity. Mawrie (2014:99-106) notes that a Khasi personifies nature and speaks of its qualities as if they belong to a real human person. The Khasi pine tree (*diengkseh*) is a teacher of self sacrifice and service because it provides fuel and timber for houses. The Khasi oak (*diengning*) stands tall for a person of principle, who never wavers even in the strong winds of criticism. Furthermore, the Khasi have upheld a remarkable environmental ethic. Nature is fondly referred to as *Mei Mariang* (mother nature), who is to be loved, cared for and respected. Man is reminded to use the gifts of nature (wood, bamboo) with discretion and due permission all along heedful that need and not wanton greed is his guiding principle. To protect the natural environment from wanton destruction, the Khasi have also framed and followed ecological laws. The reference of Khasi stories to sacred mountains, sacred forests (groves), sacred rivers reflects this ecological frame of mind within the community.

Violation of these protected environmental spaces and their gifts would invite the wrath and punishment of nature herself manifested again through stories of guardian spirits and sacred settlers in such places. Human punishments against violations took the form of trials and ordeals by natural elements such as water and fire. The Khasi believe that the community is the ultimate custodian and authority in deciding all matters related to land and land management. The community regulated land usage patterns to ensure that sustenance needs of every individual and family were met while simultaneously balancing the ecological need of mother nature to recuperate. The traditional practice of swidden (shifting) cultivation clearly illustrated this concern that the Khasi way of life exhibited for the land and the environment. Mawrie (1981:102-105) writes:

A Khasi lives in nature and learns in its bosom. It teaches and guides him in his daily existence, be it in his movement from place to place or in his occupation.....Nature for a Khasi is like a book. The teaching and wisdom he derive from it, he makes use of in his daily life. He examines meticulously, and with great care the objects around him. He cares for and treasures all he sees and observes so that they could be of help to him in all his needs. He lives peacefully in his own land and enjoys the embrace of nature.

Case Study of the Marpna Protected Forest: *Raid Marpna* is a village located in Mawphlang Block of East Khasi Hills district in Meghalaya. Placed in rural part of East Khasi Hills district of Meghalaya, it falls within the jurisdiction of the SohiongLyngdohship, one of the many traditional Chieftainships of Meghalaya.

Demographics: As per Census, 2011, the village is home to 1238 people, among them 592 (48%) are male and 646 (52%) are female. 1% of the whole population are from general caste and 99% are Scheduled Tribes. Child (aged under 6 years) population of Marpna village is 26%, among them 48% are boys and 52% are girls. There are 207 households in the village and an average 6 persons live in every family. The Average Sex Ratio of Marpna village is 1091 which is higher than Meghalaya state average of 989. Child Sex Ratio for the Marpna as per census is 1086, higher than Meghalaya average of 970.

Literacy Rate: Marpna village has higher literacy rate compared to Meghalaya. In 2011, literacy rate of Marpna village was 78.83 % compared to 74.43 % of Meghalaya. In Marpna Male literacy stands at 78.64 % while female literacy rate was 79.00 % (Govt. of India Census, 2011).

Administration: Marpna village administration is headed by the Lyngdoh (Chief) who is elected from among the LyngdohMawlong Clan. However, the daily administrative duties are performed by *U Sordar* (Head of Village) who is elected representative of village.

As stated earlier, *Raid Marpna* village administration is headed by the Lyngdoh (Chief) who is elected from among the Lyngdoh Mawlong Clan. The daily administration is run by the village headman, *Sordar*. The *Sordar* is aided by four *Rangbah Dong* (Deputies) who looked after the affairs of a specific locality within the Village.

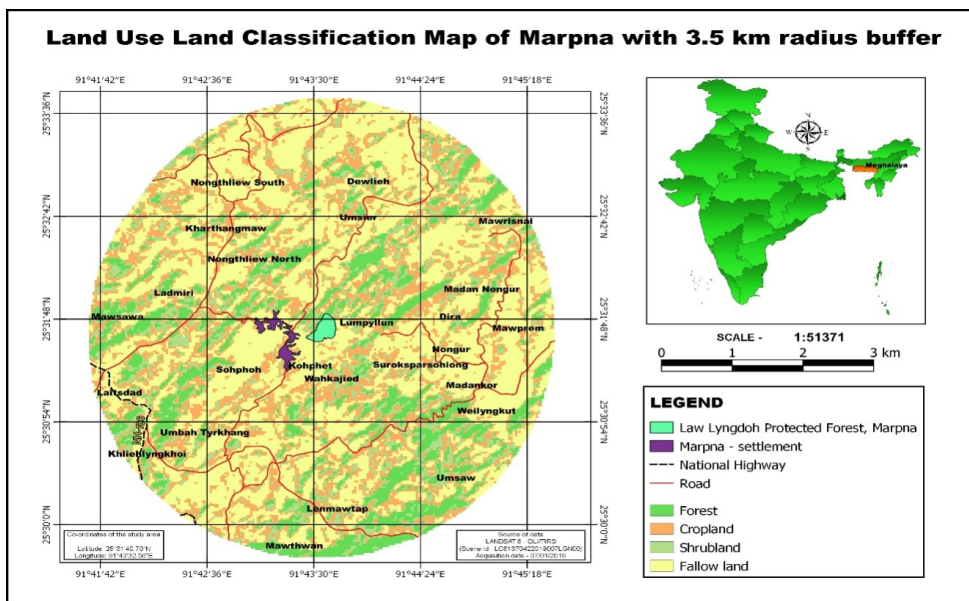
Table 1. Population of Raid Marpna Village

Particulars	Total	Male	Female
Total No. of Houses	207	-	-
Population	1,238	592	646
Child (0-6)	317	152	165
Schedule Caste	0	0	0
Schedule Tribe	1,231	589	642
Literacy	78.83 %	78.64 %	79.00 %
Total Workers	574	286	288
Main Worker	572	-	-
Marginal Worker			

(Sources: Govt. of India Census, 2011)



Fig. 1. MARPNA 'LAW LYNGDOH PROTECTED FOREST



Map 1. Law Lyngdoh Protected Forest, Marpna

The Sordar and the Rangbah Dong are elected by the *Dorbar Raid* (Council of Raid Marpna) for a term of 3 years. They all functions in consultation with the Lyngdoh. The Dorbar Raid consists of all male members above the age of 18 years. The land in *Raid Marpna* is owned and administered only by members of the Lyngdoh Mawlong clan who have settled in it or in its vicinity. Non clan members can neither buy nor sell any plot of land within the *Raid Marpna*. Established over a hundred years ago (based on oral knowledge) by the Mawlong Clan, the affairs of the Raid Marpna Protected Forest and other clan related matters are administered by the Mawlong clan under the headship of *U Lyngdoh* (Clan Chief). The size of the Raid Marpna Protected Forest is approximately 34.2 hectares. The traditional system of administration in the Mawlong clan comprises of:

Clan Administration

- The clan council, *ka Dorbar Kur Pyllun* – this clan council comprises of all the members (men and women) of the Mawlong clan residing in Raid Marpna village. The Clan Council meet at least twice a year.
- The Executive Committee: The Executive Committee of the Clan is headed by the Lyngdoh who is the ex-officio President of the Committee. The other members include:
 - Vice-President
 - Secretary
 - Asst. Secretary
 - Finance Secretary
 - Advisers (Two)

Treasurer (Traditionally a female member of the Clan)

Members: 11 (both Male and female members)

Perhaps this is the first democratic approach towards gender equity by the earliest settlers to promote equity in administration long before the term “democracy” was coined.

Forest Management: The management of the protected forest is taken by the Executive Committee under the guidance (*jingpyniaid*) of the Dorbar Kur. Though no written records were to be found, according to the clan elders, the institution of the protected grove has been in existence for not less than a hundred years. The practice of maintaining this grove is an indigenous institution which has the effect of conserving forest areas by local inhabitants. The protected forest has strong cultural and traditional values associated with it. It is a traditional nature conservation practice which can also be found throughout the world.

- The clan in conjunction with the Village has also set up a Marpna Joint Forest Management Committee to look into the legal and financial aspects of forest management.
- The forest is looked after by a caretaker who is appointed by the Clan. The remuneration for the caretaker is paid out of the Clan Treasury.
- Cutting and burning of Trees are strictly prohibited. Prohibitory measures like fines are put in place to punish any wrongdoers.
- Once a year there is a practice of *Sain Ding* (a traditional practice of controlled burning) to prevent fires from adjacent land from spreading to the Protected Forest.

- The traditional religious rituals are no longer practiced in the forest.

REFERENCES

- Learner, Annenberg, “Introduction: Nature and Culture” accessed through, https://www.learner.org/courses/world_history/support/reading_4_1.pdf on March 18, 2024:1.
- Pretty, Jules et.al. 2009. “The Intersection of Biological Diversity and Cultural Diversity: Towards Integration”. *Conservation and Society* 7(2):100.
- Pilgrim, Sarah, Samson, Colin & Pretty, Jules. 2009. “Rebuilding Lost Connections: How Revitalisation Projects Contribute to Cultural Continuity and Improve the Environment”. iCES Occasional Paper 2009-01. accessed through, https://www.researchgate.net/publication/237433240_Rebuilding_Lost_Connections_How_Revitalisation_Projects_Contribute_to_Cultural_Continuity_and_Improve_the_Environment, on March 17, 2024.
- Report of the World Commission on Environment and Development: *Our Common Future*. 1987:98.
- Nongbri, Tiplut. 2006. “Culture and Biodiversity: Myths, Legends and the Conservation of Nature in the Hills of North-East India”. *Indian Anthropologist*. Vol. 36, No 1/2 (Jan-Dec):3.
- Pretty, Jules. 2008. “Nature and Culture”. *Resurgence*. Issue 250. September-October.
- Pilgrim, Sarah & Pretty, Jules (Ed.). 2010. *Nature and Culture: Rebuilding Lost Connections*. London: Earthscan Ltd.
- Ramakrishnan, P.S. 2001. “Ecological threads in the sacred fabric”. *India International Centre Quarterly*. Vol. 27/28:109.
- Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos, Castillo A. & Rubis, J.T. *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation*. Paris: UNESCO and Darwin, UNU, 2012:6.
- Nongbri, Tiplut. 2006. “Culture and Biodiversity: Myths, Legends and the Conservation of Nature in the Hills of North-East India”. *Indian Anthropologist*. Vol. 36, No 1/2 (Jan-Dec):1.
- Thangkhiew, Jennifer. “Ecology and Spirituality: A Study in the Khasi Context with special reference to the Poem ‘Ki Sngi U HynniewTrep’ by U SosoTham”. In Mawlong, Banshaikupar L. & Mitri, Marco Babit (Ed.). *Environment-Cultural Interaction and the Tribes of North-East India*. UK: Cambridge Scholars Publishing, 2015:71.
- Tuner, Nancy J. and Berkes, Fikret. 2006. “Coming to Understanding: Developing Conservation through Incremental Learning in the Pacific Northwest”. *Human Ecology*. Vol. 34, No. 4 (August 2006): 495-513.
- Pilgrim, Sarah, Samson, Colin & Pretty, Jules. 2009. “Rebuilding Lost Connections: How Revitalisation Projects Contribute to Cultural Continuity and Improve the Environment”. iCES Occasional Paper 2009-01. accessed through, https://www.researchgate.net/publication/237433240_Rebuilding_Lost_Connections_How_Revitalisation_Projects_Contribute_to_Cultural_Continuity_and_Improve_the_Environment, on March 17, 2024.
- Nongbri, Tiplut. 2006. “Culture and Biodiversity: Myths, Legends and the Conservation of Nature in the Hills of

- North-East India". *Indian Anthropologist*. Vol. 36, No 1/2 (Jan-Dec):3.
- Ramsiej, K.Dhirendro. *Khasi Philosophy of Nature*. Shillong: Seven Huts Socio-Educational Association, 2004: 34.
- Nongkynrih, A. K. 2012. "Tribes and their Environment: A Sociological Interpretation". *Oriens Journal for Contextual Theology*. Vol.III: 45.
- Mawrie, Barnes L. *The Khasis and their Natural Environment* (2ndEdn.). Shillong: Vendrame Institute Publications, 2009:16.
- Mawrie, Barnes L. *Khasi Ethics*. Shillong: Vendrame Institute Publications, 2014:68.
- Nongkynrih, Kynpham Sing. *Around the Hearth: Khasi Legends*. New Delhi: Penguin Books, 2007:ix.
- Mawrie, Barnes L. *The Khasis and their Natural Environment* (2ndEdn.). Shillong: Vendrame Institute Publications, 2009:32-33.
- Mohrmen, H. 2015. "Erosion of Culture, Tradition and Environment Destruction". *The Shillong Times*. January 26, 2015.
- Nongbri, Tiplut. 2006. "Culture and Biodiversity: Myths, Legends and the Conservation of Nature in the Hills of North-East India". *Indian Anthropologist*. Vol. 36, No 1/2 (Jan-Dec):4.
- Mawrie, Barnes L. *The Khasis and their Natural Environment* (2ndEdn.). Shillong: Vendrame Institute Publications, 2009:33-35.
- Thangkhiew, Jennifer. "Ecology and Spirituality: A Study in the Khasi Context with special reference to the Poem 'Ki Sngi U HynniewTrep' by U SosoTham". In Mawlong, Bansaikupar L. &Mitri, Marco Babit (Ed.). *Environment-Cultural Interaction and the Tribes of North-East India*. UK: Cambridge Scholars Publishing., 2015:72-73.
- Mawrie, Barnes L. *The Khasis and their Natural Environment* (2ndEdn.). Shillong: Vendrame Institute Publications, 2009:99-106.
- Mawrie, H.O. *The Khasi Milieu*. New Delhi: Concept Publishing Company, 1981:102-15.
- Census 2011. Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India.
- Interview with Mr. F. LyngdohMawlong, *Lyngdoh*(Clan Chief), Raid Marpnaon October 18, 2018.
- Interview with Mr. Kedron Kharjana, Secretary, Raid Marpnaon October 18, 2018.
