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Indigenous Knowledge of Salt-making among the Nocte: Integrating Local Economies, Lores, and Cultural Narratives

Abstract

The Nocte tribe of Arunachal Pradesh in India possesses a rich repository of natural resources intricately embedded in its ecological setting and cultural life. Among these, the brine springs locally known as *sum phong* occupy a central position in the historical economy and socio-cultural heritage of the community. During the rule of the Ahom kingdom in Assam, salt produced in the low hills of Tirap and adjoining Sadiya region was a highly demanded commodity across the Brahmaputra plains. The springs were popularly referred to as *Nimok Pung* (salt wells), reflecting their economic importance in regional trade networks. Drawing upon historical chronicles such as the *Buranjis* and colonial records, this study examines inter-tribal and hill–plains interactions shaped by control over these vital resources. Frequent conflicts between the Noctes and the Ahoms emphasize the strategic value of the salt springs amid widespread scarcity of salt in the plains. The paper further explores indigenous knowledge systems associated with salt extraction, including traditional techniques of well construction, methods of evaporation and processing, and the medicinal uses attributed to local salt. It also documents the rituals, oral narratives, folktales, and folk songs intertwined with salt-making practices. By situating salt springs as both ecological assets and cultural symbols, the study highlights their enduring impact on the economic history, social organization, and intangible heritage of the Nocte community, even as the traditional salt-making industry has declined in contemporary times.

(Keywords: Nocte, Salt-springs, Indigenous Knowledge, Myths, Lores, Culture)

Introduction:

Arunachal Pradesh, a north-eastern state of the Indian sub-continent, is located in the foot hills of the Great Himalayas. It is well known for its rich floral and faunal diversity and has earned the designation of one of the 18 bio- diversity hot spots of the world. The varied climatic conditions have given a congenial environment for the life forms to flourish in the region. Besides this, the specific location of the state at the junction of Indo- Malayan, palaearctic and Indo- Chinese bio- geographic belt has contributed much in the proliferation of the wealth of diverse life forms in it. The socio- cultural heritage and the accounts of the history of the various ethnic tribes throw sufficient light on the Man- Nature symbiotic co-existence for ages together.

Tirap, one of the oldest districts of the state, is bounded by the Tirap River in the East, the Tisa River in the West, the Patkai hills in the South and the state of Assam in the North. Inhabited by the Nocte, a major tribe of the state, and some minor tribes as the Tutsa and the Olo, the district covers an area of 2,362 sq.km. It is a natural storehouse of wide varieties of flora and fauna which are intricately interwoven with the lives and traditions of the people. The vegetation of the area is tropical evergreen, rain forest type and semi-evergreen depending on the soil condition and the variation in altitude.

Salt Springs:

In addition to the natural resources of innumerable exotic plants and animals, the Noctes are in possession of numerous salt- springs, locally known as sum phong, which played a major role in shaping the economy of the tribe and in developing commercial and cultural ties with the people of the plains in their earlier days. Brine- springs occur in the areas where there are underground deposits of rock- salt which, often in association with other substances, percolates spring water. During Ahom rule in Assam, the locally manufactured salt from the brine- springs in the low hills of the Nocte area and Sadiya region was a much demanded commodity in the entire plains of the North East. Such areas were also popularly known as Nimok Pung (an Assamese derivation meaning- nimok- salt, pung- well). Salt springs were located at Namsang, Borduria, Laptang, Kaimai, Paniduria, Kapo,

Noksa, Laho, Soha, Doidam, Turet, Subang and many other villages. Each salt spring was under the control of the respective village chiefs.

The villagers could use the salt for domestic use at any time without taking prior permission from the chief. But an outsider had to pay some tax to the chief for taking salt from it.

However, salt- extraction or salt- preparation was done collectively. The importance of salt has been recorded in many civilizations across the globe. It has been an important and integral part of the world's history as it is intricately related to the daily lives of countless historic civilizations as far back as 6050 BC. Used as a part of Egyptian religious offerings and valuable trade between the Phoenicians and their Mediterranean empire, salt and history have been inextricably intertwined for millennia, with great importance placed on salt by many different races and cultures of people.

In this paper, an attempt has been made to understand the indigenous knowledge of salt-making of the Nocte tribe; medicinal value of the local salt; importance of the salt- springs as a unique natural resource and its impact on the economy as well as in the social and religious lives of the Noctes in the earlier days and today. The study also focuses on the early methods of extraction and manufacturing of salt from the brine- springs; materials used for the construction of salt- wells; rites and rituals associated with the use and maintenance of salt- wells; the main locations of the brine- springs; its depth, circumference and vice versa. It is interesting to note that salt and salt-springs have been the subject of many stories, fables and folktales and are frequently referenced in fairy tales.

Role of salt- springs in the socio- economic life:

The Nocte had close relations with the plains of Assam during the reign of Ahom dynasty mainly for trading purpose. During the rule of Ahoms in Assam for six centuries from A.D. 1228 to 1826, the whole North East and Southern part of Assam had commercial relation with the Nocte. As there was scarcity of salt in Assam, the people of the Brahmaputra valley had to depend on the supply of local salt of the Naga Hills and of Sadiya region. The Nocte were in an advantageous position because of the availability of numerous salt-springs in their area. They used to exchange salt, bamboo articles, ivory, animal skin, etc.

for other important items like cloth, tea, fowls, utensils, etc. from the people of the plains.

The people of the main villages like Namsang, Borduria, Paniduria, Laptang and many other small villages lived mainly by manufacturing salt from the salt wells which they would retail to the Ahom traders in large quantities. The Ahom government had imposed a nominal tax on the salt brought for sale by the Noctes.

During the reign of Gadadhar Singha (1681-1696) in Assam, a major conflict broke out between the Nocte and Ahom sepoys over the possession and manufacturing of salt from the salt- springs. Gadadhar Singha laid down some conciliatory policies in a diplomatic manner. Later on, their relationship developed into friendship and cultural and commercial interaction. However, the Noctes showed their dissatisfaction at the policies on the use of the salt- springs laid down by the later Ahom king, Purandhar Singha (1818-1821). The problem of scarcity of salt was over only after the expansion of Ahom kingdom towards the West which helped them to open up trade relations with Bengal and they started importing huge amount of salt annually from Bengal region. As a matter of fact, Tirap was one of the important sources of salt for the people of Assam before it was regularly supplied by the merchants of the Company through Bengal.

Moran salt spring of Subang Kandhtuli salt spring of Laptang

Salt was of crucial importance economically in the lives of the tribes of the north –east as they had used a system of barter instead of money. A popular commercial centre in hills in the earlier days was Kandhtuli (an Assamese term meaning kandh- shoulder; tuli- to carry; traders used to carry the goods in their shoulders) where the Nocte traders and the merchants from the plains met to barter goods. The Kandhtuli bazaar was located in the bank of the Chatjo river. Sometimes the Nocte traders would go down to the plains for trading in places like Margherita, Namrup, Naharkatiya, Joipur, etc. Such system of barter was prevalent in many other parts of world. A far- flung trade in ancient Greece involving exchange of salt for slaves gave rise to the expression, 'not worth his salt'. Even today, the

history of salt touches our daily lives. The word 'salary' was derived from the word 'salt'. Special salt rations given to early Roman soldiers were known as 'salarium argentum', the forerunner of the English word 'salary'. Salt was highly valued and its production was legally restricted in ancient times, so it was historically used as a method of trade and currency. It was an important trading commodity carried by explorers. Undeniably, the history of salt is both broad ranging and unique, leaving its indelible mark in cultures across the globe. While we have records of the importance of salt in commerce in medieval times and earlier, in some places like the Sahara and Nepal, salt trading today gives a glimpse of what life may have been like centuries ago.

Role of salt- springs in the religious life:

The Noctes showed a great reverence for the salt springs and had attached religious value to it. They believed that the salt- springs were the gifts of God, the almighty Rang -O. They held that each of the salt springs was dwelled in by some spirit called jo jauba or jok. Prior to the extraction/ production of salt from the springs, they had to appease these spirits by performing some rites, especially, by offering rice beer and by sacrificing animal or fowls. The surroundings of the salt well were always kept clean and tidy. The path or track leading to the salt spring was cleaned and the jungle around it was cleared off. The village priest called Chimtey Lowang by the Khappa Noctes along with the some elder folks who were supposed to be the experts performed the special ritual of appeasing the spirit and praising Rang –O before using the salt wells.

Pousum salt spring of Pullung is the most famous salt springs in the district. People performed some rituals annually for extracting salt for trading and domestic consumption. They had to offer betel leaf and areca nut called tamul- paan which symbolizes purity, along with two hens- one black and one white to propitiate the salt Goddess called Chim Thoa Yangchha and her maid. The white hen was offered in the name of the Goddess, while the black one was supposedly for the maid of the Goddess. In fact salt has played a vital part in religious ritual in many cultures symbolizing immutable, incorruptible purity. 3

There are more than 30 references to salt in the Bible, using expressions like "salt of the

earth". There are also ² many other literary and religious references to salt, including use of salt on alters representing purity, and the use of "holy salt" by the Unification Church.

Greek worshippers consecrated salt in their rituals. ¹ In Buddhist tradition, salt repels evil spirits. That's why it is customary to throw salt over your shoulder before entering your house after a funeral: it scares off any evil spirits that may be clinging to one's back.

Today, a gift of salt endures in India as a potent symbol of good luck and a reference to Mahatma Gandhi's liberation of India which included a symbolic walk to the sea to gather tax- free salt for the nation's poor.

Brine and mud of pousum salt spring at Pullong

Role of salt- springs in warfare:

Salt served as money at various times and places, and it had been the cause of bitter warfare. The historical chronicles of the Ahoms known as Buranjis and the British records give us some information about late medieval history of Tirap district. In the beginning, there were constant clashes between the various tribal groups of the hills and the Ahoms over territorial possessions and over the possession of the salt- springs. Some horrific accounts of such warfare have been given in the earlier British and Ahom chronicles. History records the effects of salt deficiency in times of war when human bodies and national economies are strained to their limits. As for instance, thousands of Napoleon's troops died during the French retreat from Moscow due to inadequate wound healing and lowered resistance to disease- the result of salt deficiency.

Role of salt- springs in myths and folktales:

The fact is that throughout history, salt- called sodium chloride by chemists- has been such an important element of life that it has been the subject of many stories, fables and folktales and is frequently referenced in fairy tales. The Noctes have in their stock numerous stories and tales about salt- springs. A very popular tale on the origin of salt- springs in their area goes like this-

Long long ago there lived a beautiful couple in a village in the upper Nocte area. They were blessed with a son. Unfortunately, the father passed away leaving behind his young wife and their son. The mother toiled whole day to feed her child. She used to make very delicious vegetable soup and curry for her son by spitting into the vegetable bowl. The boy gradually grew into adolescence. He took pride in his mother's exceptional quality of being a great cook. He started announcing it in public that his mother cooks delicious salted soup and curry which no one else could do. Gradually, the news spread. People became curious to know more about it. One day some village people decided to watch the lady quietly when she was cooking. To their astonishment they found her spitting into the bowl while cooking. They were aghast to find out the way the lady cooked the curry.

At once they revealed everything to the boy and made fun of him. The son felt humiliated and he decided to find out the fact by himself. Next morning he watched his mother carefully when she was cooking meal. He was much upset to find out his mother's cooking secret. He became furious and started beating her. Out of embarrassment, he decided to drive her away from the society. Before leaving the house the mother spat on a palm leaf and wrapped it tightly and then hung it on the bamboo wall. She asked her son to keep it lovingly. After that she set out for her unknown destination.

When the mother was gone, the boy opened the palm leaf to see what was inside. He was surprised to find a chunk of salt in the leaf. He instantly realised that his mother was none but the Goddess of salt. At once, he set out to the forest to bring his mother back. He rushed towards the jungle asking all the plants and trees on the way if they had seen his mother. They replied that his mother had passed by that just a few minutes ago. The mother roamed over the entire Nocte area. The springs beside which she had rested and spat at during her journey became the salt springs percolating huge volume of salt- water. Whereas, the spring sides where she had rested but didn't spit became salt- springs with lesser volume of salt in it.

The boy could never meet his mother again. As the sun set and darkness grew he decided to return home cursing all the plants and trees who could not tell him about his mother's

whereabouts. He kept on singing sadly and kept on cursing everything on the way for not helping him in finding his mother out. Finally, the boy was lost in the wilderness and disappeared forever. It is believed that the salt Goddess had spat more at the springs of Pousum, Moran and Sumchuan areas. Therefore, salt water is oozing out in large volume in the Pousum spring, Moran spring and Sumchuan spring till today. It is also believed that the salt -Goddess breathed her last near the Sumchuan spring. The salt water flows out from a female figure like structure in the earth crust (believed to be the figure of the salt-Goddess). Young boys and ladies are not allowed to visit the Sumchuan salt spring. Similar tales are very popular also in the Chinese folklore. Salt production has been important in China for two millennia or more. Chinese folklore recounts the discovery of salt.

Source of Sumchuan salt spring in Notun Kheti A sculpture of a female figure
believed to be lying
half buried under the earth now

A Folk song on Salt:

This is a Tutsa folksong sung in praise of their ancestors who taught them the knowledge of Salt extraction and production of salt-

Ku-kang apho tohpong

Ku-kang apho kompong

Tohpong ara jongli

Kompong ali jongli

Ka rey ba khet li ley tah

Bi bar ba khet li ley tah

Wen tak an rey tah

Sum tak an rey tah

Kar bar be bin rey hon tah
Kar bar be bin khet ley hon tah
Long dan atom dan nga
Si dan atom dan nga
Ku-kang apho kompong
Ku-kang apho tohpong
Tohpong ara jongli
Kompong ali jongli
Kar bar ney nun ney tah
Bi bar ney nun ney tah
Hong dan au dan tah
Si dan au dan tah
Kar bar bar khey rey tah
Bi bar bar khey rey tah
Kar bar ro-rang rah
Bi bar ro-rang rah

Kohpong is the oldest man,
Kompong is the oldest man,
Under Tohpong and Kompong
Salt extraction flourished.
They made fire,
They made salt,
They taught us how to extract salt
from the salt springs.
Kompong is the earliest man,

Tohpong is the earliest man,
After Kompong and Tohpong
Salt extraction started.
They taught us good things,
Before making salt
They saluted 'Rang' (the Almighty).
We salute them for Tutsa folk song singer -Winlom Halang
Giving us their knowledge and wisdom.

Medicinal value of the salt- springs:

Consumption of salt water from the brine- springs prevented formation of goitre. The early Nocte people didn't suffer from goitre.

The salt water was also a natural remedy for gastritis.

It was also used to cure throat infection. A piece of ginger was added to the salt water and the mixture was used to clean a sore throat.

The salt water was used to clean and disinfect cuts and wounds. A mixture of salt solution and green tea was used for bathing and cleaning wounds and infections.

Even today, many families of some villages still use the spring salt to get relief from stomach ache, constipation and indigestion.

Village women carrying salt water in bamboo tubes

Method of salt- well construction:

A well was constructed by digging the ground deep in the lower area of the brine spring that percolated salt water. The depth of the well varied from 20 to 24 feet and the circumference varied from 6 feet to 9 feet approximately at different places. After that, a naturally hollow log or a man- made hollow log was inserted vertically into the well. It was necessary to use a hard and tough wood for the purpose to provide durability of the well. They would then tie long bamboo sticks together into a bundle and burn one end of it till

the ashes were of 2 to 3 inches. The bundle was wrapped in huge palm leaves called ko-paat. The burnt up end of the bamboo was placed at the source of the salt spring and the other end was projected into the mouth of the well. It is said that the ashes absorbed salt water, filtered it and then drained it into the well constructed below. The wells overflowed with large quantity of salt water.

1. Kandhtuli salt well 2. The village head measuring the circumference of possum salt well

Materials used for the construction of salt- wells:

The salt- wells were made up of huge logs which were hollowed out in the middle vertically. Seasoned timber was used for the purpose as it couldn't be replaced frequently. Bamboo, cane ropes and palm leaves were used to channel the salt water to the well.

Method of extraction of salt:

Salt was prepared in big bamboo tubes by boiling and evaporation method. The bamboo vessels were filled with salt water and it was heated till it vaporised. The vessels were refilled with salt water till it evaporated completely. The process continued until the tubes were filled with solidified salt. Around fifty to hundred tubes of salt could be produced at a time. Each tube weighed around one to three kilos. The quantity of production of salt depended on the availability of salt water in the wells. The water was not taken out directly from the wells for boiling. It was first poured into a big wooden vessel called sum khoan kho allowing other particles in the water to sediment at the bottom. Later on, the water from sum khoan kho was carefully emptied into the tubes for boiling.

Baboo tubes filled salt-water after proper sedimentation.

Salt was prepared day and night. Large quantity of firewood was required for the purpose. The number of days required for the preparation of salt depended on the volume of salt water in the respective springs. Salt was prepared in a day or two from the extremely salted springs like pousum and Sumchuan of Pullung and Wasathong villages respectively.

In other springs where salt content was less, it took around five days in salt making. After the salt water got concentrated by the heat of the fire burning underneath, it was taken out from the tubes and was packed neatly and tightly in palm leaves called sum doap nyap. The salt packets were then taken to the market for sale. Many bamboo trees were planted in and around the salt springs as huge number of bamboo tubes were required for the preparation of salt. Bamboo trees have grown abundantly in the salt spring sights till date.

Heating and evaporation of brine water into salt

Bamboo plantation at Kandhtuli bazaar

Salt springs today:

In the present time, the salt springs are not used properly by the community due to easy availability of factory- packed salt from the plains. The traditional method of salt extraction appears to be lengthy and tiresome and hence practised hardly. Unfortunately most of the springs are in a deteriorating condition due to lack of maintenance. Another important reason for its deterioration is the access of wild animals to it. Wild elephants have destroyed most of the springs as they are fond of salt. They come to bathe and to drink water from salt springs in a herd very frequently.

Moran salt spring destroyed by elephants

Conclusion:

However, in recent years, along with economic development, government sponsored urbanisation, technological development, and the penetration of market have led to the growing deterioration of the salt- springs which are an invaluable natural resource of the community. There is a need to understand how far the present society can play a synchronised role in keeping the traditional way of extracting salt from the salt- springs alive with the modern developmental changes.

In some remote villages, people still use the salt water for domestic consumption in case

they run out of market-salt in home. People feel that the salt springs should be honoured and preserved although traditional salt- making is no more in practice now a days. Some feel that the fore father's method of salt-making and the medicinal utility of the brine should be reviewed as it is percolating from under the ground in large volume. The older folks revere the salt springs as gifts of God to them. They want the new generation to honour it as it had been their source of livelihood once upon a time. It is still mandatory to clean the spring sites and footpaths leading to spring at least once in year, especially during their festival time.

People opine that government can take some action for preserving the salt wells by constructing concrete wells and platform around it. Concrete footpaths should be constructed up to the salt springs for easy to and fro movement of the common people. Government authorities, researchers and scientists, and NGOs can carry out some research work to understand and develop the medicinal utility value of the brine salt to generate the economy of the tribe. It has been scientifically proven in many countries that natural brine and mud are used to cure a wide range of diseases: orthopaedic disorders, spinal aches, bone and muscle aches, and diseases of peripheral and central nervous system, blood vessels, skin and gynaecology diseases. This natural healing agent is superior to other medication and it has no side effects. Brine baths and salt inhalations were effective in antiquity, they still are today. Nocte society, in truth, cannot be discussed without referring to the salt springs. The Noctes consider it as an important part of their history, culture, tribal folklore and their indigenous knowledge system.

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Informant: Sri Nocte Panka (Teacher and social worker) of Deomali.

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