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Continuity and Change of Certain Culturally Coded Survival Strategies of the Misings of Brahmaputra River Valley of Assam

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ABSTRACT Humans being, the most intelligent creature develops default settings in terms of certain culturally coded survival strategies that may differ on the availability of raw materials of the ecology and the cognitive perception of the population. The present Mising tribe of Assam was erstwhile a hill tribe of Arunachal Pradesh, migrated to the plains of the Brahmaputra valley since time immemorial and most significantly, it is the second most populated scheduled tribe (plains) of Assam today in spite of the fact that the present Mising area is extremely prone to perennial floods. However, in their erstwhile habitat in the hills they did not face this ecological feature. Therefore, the prime purpose of this research paper is to highlight the cultural traits of the Misings that are conferring advantage to them to survive in the present habitat. The continuity of the traditional hilly cultural elements can be peeped into by examining the similarities with the Minyongs (an Adi tribe) because the Misings show striking cultural affinity with the Padam-Minyong tribes of Arunachal Pradesh. The modification of the traditional cultural elements after their migration is also tried to analyze. Considering Leslie White's theoretical considerations of cultural evolution and human adaptation, infrastructural level of the Misings is tried to understand through modes of production, structural level through the political economy and the super structural level is tried to portray with the aesthetic aspects like pattern of houses and boats designed by the population.

INTRODUCTION

Human successfully accomplished the transition from a collective and extracting to a producing mode of subsistence by harnessing and extracting the environment within the framework of their personal and collective requirements. However, most importantly, at the same time, humans are subjected to change in the context of evolutionary processes- both biological and cultural. As regards to genes, different phenotypes are selected as successful responses to environmental variability and eventually lead to differences in allele frequencies between different human populations in different ecologies (Cavalli-Sforza et al. 1994). Humans being the most intelligent creature develop default settings in terms of certain culturally coded survival strategies that may differ on the availability of raw materials of the ecology and the cognitive perception of the population. Such form of acquired and developed information and knowledge of a particular population is constantly being modified and passed on the future generations in a non-genetic way or rather in a socio-genetic way (Schutkowski 2006). Thus, humans can be referred to as quasi-biological because in humans biological conditions need to be explained because of cultural conditions. The cultural way of coping with certain stressors of an ecosystem are found to be more variable and quick than the slower way of visible genetic change in a species with a relatively long generation (Schutkowski 2006).

Each population inhabiting a particular habitat develops tangible and intangible strategies to use the environment in order to secure and pursue their survival. The tribes of North-East India based on their ecological inhabitation can be categorized into – hills tribes and plains tribes. Tribes migrated to the Brahmaputra valley of Assam and settled down permanently in this region. The Misings are one of those tribes who are erstwhile a hill tribe of Arunachal Pradesh (Pegu 1956; Datta 1992) and is the second most

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populated scheduled tribe (plains) of Assam with a total population of 8,20,250 (Census 2011). Ethnically, they are Mongoloid and belong to the Indo-Tibetan linguistic group. Their ethno-linguistic affinity with the Adis and the Nishis is striking (Payengkataki 1935; Pegu 1956; Bhandari 1992). The folk songs and folk tales including beliefs and values of the Misings indicate their origin to the Abor hills and the Adis living there (Datta 1992), particularly to the Padams and Minyongs (Pegu 2005). At present, Misings are concentrated in the Brahmaputra riverine areas of Assam, with the state boundary with Arunachal Pradesh running along the foothills of Subansiri and Siang district. The riverine areas in the northern banks of the Brahmaputra stretching from the old site of Sadiya in the East, down to the confluence of the Jiabhoroli in the west, lying approximately between Longitude 93^0 E and 97^0 E and Latitude 27^0 N and 28^0 N can be loosely considered as the Mising area (Pegu 2005). The Mising area so described is extremely prone to perennial floods and they have been surviving and perpetuating successfully.

The objective of the present study is to examine the continuity and change of the cultural elements of the Mising tribe after its migration from the hills of Arunachal Pradesh to the plains of the Brahmaputra valley with special reference to ecological adaptation. In the present habitat, they have been challenging a new environmental feature-floods-which was absent in their hills ecology. The way by which they are surmounting the challenges so created by annual floods after migration in the new ecology is a matter of great significance from the purview of human adaptation. The continuity of the traditional elements can be peeped into by examining the similarities with the cultural elements of the Minyong tribe under study. The addition and modification of the traditional elements after their settlement on the Brahmaputra valley by the process of acculturation is also tried to analyze. Leslie White's theory of cultural materialism (1959) organizes culture into technological, social and ideological components, the culture-materialistic interpretation system also consists of three organizational levels-infrastructure, structure and superstructure. Therefore, considering Leslie White's theoretical considerations of cultural evolution and human adaptation, infrastructural level of the population is tried to understand through modes of production, structural level is studied through the political economy and the superstructural level is tried to portray with the aesthetic aspects like pattern of houses and boats designed by the population.

METHODOLOGY

The data for the present study are collected from two Misings villages - Batuwa, located in the Dhemaji district and Kumarbari, located in Jorhat district of Upper Assam. The villages so selected are heavily flooded perennially and sometimes flood occurs twice or thrice a year. The data is mainly generated through open-ended interviews. Case study method is implemented to substantiate certain findings and to have a clearer insight into the phenomenon. The case study design researcher has been used for a number of reasons. This method has been chosen particularly because flood which is regarded as one of the major stressors of a habitat may not be regarded so by the population which is living with it for centuries. This perspective is experienced through observing and informally discussing with participants in their natural context wherever and whenever thought necessary. In addition, the aged individuals are interviewed and their personal views and experiences are noted to get the maximum information on the past scenario of the tribe.

RESULTS AND DISCUSSION

A long history of survival of the Mishings in the flood plains of Brahmaputra valley of Assam has equipped the community with a rich traditional repertoire of knowledge that has enabled them to live and beneficially adjust with annual floods in many ways. The important elements of this traditional repertoire are the innovation of early signs and warnings of thunder rains and floods; acquiring the mode of livelihood, pattern of house building, food preservation, practice of traditional medicine and healing systems; knowledge and skills in making rafts and boats, rice-beer (*apong*) preparation, fishing and collecting of edible products from the forests. Some of these traditional practices are enriched with modern knowledge as well as acculturation with the neighbouring communities. Since, they were erstwhile hill dwellers and till today show socio-cultural affinity with the Padam-Minyongs of

Arunachal Pradesh to certain cultural traits that the Misings carried from their hilly habitation must have conferred adaptive value to survive in the flood plains areas of Assam. The continuity of these cultural native elements in a new and different ecological setting clearly indicates that these elements are beneficial and enhancing their ability to cope with the stresses and constraints of the new environmental setting.

Therefore, the prime purpose of this research paper is to highlight the cultural traits of the Mising tribe that are conferring advantage to them to survive and perpetuate in the present habitat.

Harnessing the Ecology:
Acquiring a Livelihood/ Modes of Production

The legends related to the migration of the Misings from the hills of Arunachal Pradesh to the plains of the Brahmaputra valley also refer to the fact that the Misings practiced shifting (*jhum*) cultivation prior to the migration as well as they continued for some time in the plains after migration (Bhandari 1992; Pegu 2012). The growing contact with the neighbouring Assamese peasantry has its impact over the Misings and in due course of time (as we observe today) developed permanent settlement in the form of villages, adopted permanent cultivation and gradually discarded shifting cultivation. Thus, it developed a new mode of subsistence in the new habitat. Now-a-days, many families have surplus production and many of them are, therefore, engaged in petty-business.

The main crop of the Misings is the paddy. As informed by the villagers of both the Mising study villages, they cultivate three kinds of paddy- *sali, ahu* and *bao*. The popularity of the *sali* paddy is decreasing due to silt deposition on the agricultural land during the floods. Besides, the cultivation of *bao* is on high. *Bao* paddy, as it is suitable and ideal for marshy and swampy land grow well in the flood-prone and waterlogged areas of the Brahmaputra valley where the Misings inhabit. However, the cultivation of *bao* paddy is a new inclusion into the Mising subsistence mode, which is not cultivated by the Minyongs. It is also observed that the Misings of the two villages are more inclined towards the practice of mixing *bao* and *ahu* cultivation which ensures that, at least, one crop type survives in case of early or high floods.

It is interesting to note here that the cultivators of both the Mising villages also grow millet (*ayak*). The Minyongs also grow millet (*ayak*) in the winter season when rainfall is scanty. The millet is quite resilient to flood condition as well as grow well during the drought season. Having kind of resilience in two extreme seasons, millets are harvested well in the ecology of the Misings (flood-prone) as well as the Minyongs (drought in winter season). As it is harvested in the pre flood season, it ensures food security and nutrition for the Misings of these two villages. Millets are well preserved during and post flood situation, so ensure nutrition mainly for the children, pregnant and lactating mothers of the community if the paddy crops are damaged by strong flood currents.

It is observed in Kumarbari as well as in Batuwa village that some cultivators grow cotton (*pagrig*) in their field after harvesting *ahu* paddy, which is much in demand for spinning and weaving cloths, particularly weaving *gadu* (a kind of rug) used during winter and gifted to the bride by her mother. The petty-businessmen of both the Mising villages sell small quantities of mustard seed and potatoes to earn some extra income. Since, each flood deposits sand along with fertile alluvial, some of the cultivators, particularly in Kumarbari village have grown pumpkins and varieties of green guards, which are sold in the marketing centre of Jengraimukh tiniali.

When the Misings were shifting cultivators in the hills, they had only a few agricultural tools and implements, which are still used by them in wet cultivation. These are *kuyap* and *epo* (axes), *egin* (bamboo baskets) and *yoktung* (dao). Along with these implements, they also use other essential tools used by Assamese peasantry in the neighbouring villages like *nangal-juwali* (plough), *kashi* (sickle), *dila*, *moi*, etc. *Ahu* cultivation begins in the month of February with a ritual ceremony known as *ali-aye-ligang*, which is celebrated on the first Wednesday of this month seeking the blessings from *donyi-polo* for a good harvest. Harvesting is done by the month of August with a ceremony called as *po:rag* when all the villagers feast together.

It is pertinent to note here that the Misings of Kumarbari village in Majuli opine that if the floods are not serious, that is, when the maximum flood level is below 5 feet, is to some extent beneficial to the cultivators. This is because flood deposits rich alluvial soil on their cultivable land

thus making it fertile. Further, flood very often carries logs of wood which when dried, can be used in the *meram* for cooking. Thus, they build their new houses atleast 6 feet above the ground.

However, chemical fertilizers are introduced in their villages, but it is observed that the most of the Mising cultivators use their own traditional method for enhancing the fertility of cultivable lands, which is also very popular among the Minyongs in shifting cultivation in the village Mori (Table 1). Like the Minyongs, Misings also use household ash as a repellent to control pests and diseases of the cultivated crops. As the ashes are less likely to be washed away by seasonal floods than the chemicals, so it has emerged as a significant and advantageous method for the Mising cultivators in the riverine areas. About 87.12 per cent and 70.90 per cent of the villagers of the Batuwa village and Kumarbari village respectively use this traditional method of fertilizing the lands. This traditional method of using ash as insecticide and fertilizer is ecologically advantageous because like chemical agents, ash do not pollute the river when washed down by the floodwater.

The use of modern methods of fertilizing is not so popular among them irrespective of the economic status of the families.

The Misings are expert at hunting *(aptaginam)* and fishing *(ongonginam)*, though hunting is very rare now-a-days in the plains of Brahmaputra valley. The flesh of hunted animals is distributed equally among the families of the village. The chief hunter is gifted with a larger share of the flesh and this custom is known as *tarongenam* also prevalent among the Minyongs. However, with the advent of their closer relationship with the plains people such hunting expedition has disappeared. Fishing is much more popular among the Misings while they were in the hills as well as at the present habitats. In both the villages, the Misings use various fishing tools; some were also used while they were in the hills (some similar with the Minyongs of today) along with other tools, which they acquired after association with the plains people.

Some of the traditional and native fishing equipments of the present Misings are *e:opuk* (bow and arrow), *jamborok* (spear-like), *ei-jamborok* (cross-bow device) and *di-bung (spear-like)*. As floods recedes by September, they catch the excess quantity of fish available during this period by using *dirdang* (about 12 feet long and 2.5 feet in diameter, made of split bamboo and cane) and *porang* (smaller than *dirdang*). However, these two traps are not their traditional possessions. These are imbibed from the Assamese fisherman.

Some of the indispensable fishing implements used by the Misings are briefed below-

Koloya and *dingora* made of split bamboo used to catch fish in deep running water during monsoon. These are imbibed from the Assamese fisherman.

Turji- one of the traditional Mising implements, which is very similar to edil of the Minyongs, made of cane and fine bamboo. It is used mainly in riverside to catch small fish during the monsoon,

Raashak- made out of a single bamboo stick split in one end only, it is the simplest of all fishing devices among the Misings, this is the traditional Mising implement and very similar to porang used by the Minyong community,

Podi- made of thorny tendrils of cane, 2 feet in length and 6 inches in diameter (may vary) used in riverside,

Di-bung- made of single, long bamboo to which a pointed metallic head is attached, used in deep water, this is one of the traditional Mising implements. Besides, these, they also use hooks (*boroki*) and nets (*eshup*) to catch fish. The fishing by *di-bung* while roaring the boat in summer is one of the sporting activities.

Social Organization of the Misings: The Structural Functions

The Mising economy is typically a household economy in which the household is the unit of production and consumption. Various scholars have mentioned that the Misings have

Table 1: Traditional method versus modern chemical fertilizer

Methods	*Mising cultivators of Majuli (%)*	*Mising cultivators of Dhemaji (%)*	*Minyong cultivators (%)*
Traditional method of ash preparation	70.90	87.12	94.66
Chemical fertilizer and insecticide	29.10	12.88	5.34

a democratic social structure like the Adis of Arunachal Pradesh (Mipun 1993). In the studied villages, joint family system is still popular but nuclear families are now-a-days preferred by the young generations. The families are patriarchal in nature. In Kumarbari village of Majuli, about 51.24 per cent of the households are joint families and in Batuwa village of Dhemaji, 70.98 per cent are joint families. However, the number of nuclear families is gradually increasing in these villages. The main reason for choosing nuclear families over the extended/joint families as described by the informants is the adoption of new occupational pursuits due to fragmentation of cultivable land and population expansion. This has resulted into the adoption of new occupational pursuits like skilled works, petty business and increased recruitment in lower and middle professional jobs which do not require collective effort like in agriculture and so nuclear families are growing in number than the joint families.

However, in the agricultural families, it is observed that the whole family works in the agricultural field. Gender division of labour is conspicuous. The male members generally do the strenuous works like clearing the field, ploughing, manuring and irrigating the crops. The female members of the household generally assist the males during sowing of seeds, harvesting and in weeding. It is also observed that the Mising women occasionally go in groups to the nearby jungles to fetch medicinal plants and necessary plant parts for rice-beer (*apong)* preparation. They are also busy in piggery as well as in poultry. As a whole, a Mising family is self-sufficient to maintain and perpetuate its livelihood. Besides, intra-household cooperation, inter-household cooperation is also important for cordial inhabitation in a particular territory. This enhances the chances of survival and perpetuation. Among the Misings, certain cooperative activities, which according to the informants are age-old characteristics, help them to enhance solidarity. Besides, these cooperative activities are- *rikbo-ge'nam* and *dagle'ka-ale'k*, organized by the family whenever required, prevalent among the Minyongs also. *Rikbo-ge'nam* is the activity when a person is unable to cultivate his field due to certain reason and he requests the fellow villagers for their cooperation. To keep his request, the villagers generally help him according to their capacity, caliber and time. On the other hand, *dagle'ka-ale'k* refers to the cooperative activity of the villagers along with the owner for the construction of a new house or sometimes repairment of the old house. These two cooperative social activities are indispensable for shelter management and thus existence of the population in that environment.

Case Study 1

Name-Shri Lakhidhar Pegu, Age-34 years, Village- Kumarbari, Majuli

Mr. Pegu states, "After my marriage in 2003, I decided to live in a separate house. However, building a house alone or with the family members is a cumbersome work and almost impossible. Cooperation from the fellow villagers is necessary. Therefore, I decided to approach the youths of the village to help me constructing the house. The males generally do the extraction of bamboo stripes and their matting and the females help in the transportation of thatch materials from the forest. This cooperative activity of constructing a house is known as *dagle'ka-ale'k*, anybody from the village can contribute their effort to build a new house. It required about 45 days completing the construction of the house. On the last day, I arranged a feast with leaf-packed rice (*porang-apin*) and pork (*adin)* to those who helped me in this activity. Such a feast is a gesture of thanks to the villagers for their cooperation."

Ke'bang

Like the Minyongs of Arunachal Pradesh, the Misings have *ke'bang* (village council) - a committee of village elders, within a village. It is the supreme within a village, which controls the social, political, law and order aspects of the village. The original function of the *ke'bang* of a village in the past in the hills was to settle group rivalries and inter-tribal feuds as well as to decide the martial policies. The *ke'bang* of the concerned Minyong village performs the following primary functions.

Adopts martial policies whenever required because the other tribes with strong martial policies surround it.

The *ke'bang* gives decision on the selection of new land for *jhum* cultivation as well as announces the period for fencing the land. The

community fishing is also regulated by the *ke'bang*.

Though the kebang of the Misings performed similar functions as the Minyongs before migration, but after migration, the cordial relationship of the Misings with the neighbouring populations has almost ended up the primary traditional function of the *ke'bang*- that is, to settle group rivalries and adopt martial policies. As told by the informants, the *Kébangs* of the two Mising villages-Kumarbari and Batuwa, perform the following functions. To allow breeding period of the fish, the *Ke'bang* generally bans fishing by the individuals after drought and promotes community fishing during a particular period, generally after the recession of the flood,

Earlier, it was the responsibility of the *ke'bang* to decide a proper place, which could be converted into an agricultural land. However, as the forestland has become scarce and the population has increased, hence there is not enough land in the area where people can establish new villages or can expand their agricultural land. With increasing impacts from floods, the nearby forests are overexploited and completely denuded by the late 1990s.

Before the arrival of the monsoon, the *ke'bang* members check the condition of the embankment of the rivers. The *ke'bang* in many times erected their traditional embankment of bamboo and wooden logs with the help of villagers,

Sometimes the type of crops and cropping pattern are also regulated by the *Ke'bang* based on the resource availability,

The *ke'bangs* give important decisions like date selected for the arrangement of festivals like *ali-ai-ligang*, *po:rag* and *dobar puja*; which villages would be invited for celebration, important guests to be invited on these auspicious occasion.

Particularly, the *ke'bang* of the Kumarbari village in Majuli is seen very active in developing the Mising language in association with the *Mising Agom Ke'bang* (Mising Literary Body).

It is important to note here that the *ke'bang* gathering occurs whenever required in the premises of the bachelors' dormitory (*murong*). Thus, the Misings of these two villages in Assam have a well-organized social structure, which helps them in smooth maintaining of social and political life, integration and sharing, maintaining customary laws and sanctions, and very importantly challenging the stresses of the habitat as a solid community.

Pattern of Houses

The Misings being a riparian tribe build their houses by the bank of a river. The Misings call their village *do-lung*. Besides, right from the process of the selection of a site for a new village to the design of a house show definite adaptations to the physical conditions, particularly towards flood and protection from wild animals. The *chang* (platform on piles) concept of building a house is also found among the Minyongs but the adaptive benefits of this similar concept are different between these two tribes. Among the Minyongs, the houses on piles protect the inmates from wild animals of the neighbouring forests.

Selection of a site for habitation through a ritual known as *amo-yukang* is performed by the priest (*mibu*) - Before the selection of the site, the *mibu* digs four holes in the four corners of the area and small packets of rice (packets made- *Alpinia nigra* leaf) in five pairs are put into the four holes and filled up with soil firmly for one night. In the next morning, he dug out the four packets and examines the position of the five pairs of rice in the packets. Entrance of ants, termites or other insects indicates bad omen, which may lead to various disease of the inhabitants, if the pairs of rice are separated or lost then it indicates the separation of brothers in the family and sudden death of the villagers. If the packets remain as it is, then the site is considered ideal for their habitation**.** It is interesting that such kind of traditional belief may be interpreted scientifically. The entrance of insects and termites refer that the soil is marshy which might be the ideal breeding grounds of various micro-organisms as well as termites and insects that may destroy their *chang-ghars* quite quickly. The separation of the rice pairs in the holes may occur due to the movement of underground burrowing animals, which may affect their cultivation as well as settlement.

When the design of Mising houses is analyzed from the perspective of adaptation towards floods, it is observed that the *chang-ghars* protect the household from floodwaters. The stilt-houses of wooden pillars have adjustable floors to match the water level of the flood, however, such adjustments is restricted to less than one foot. However, it is observed that in Kumarbari,

the newly constructed houses have high floors than the earlier constructed ones, particularly from the year 2004 onwards. This is because the level of flood in these two villages has risen consequently from 2004. In Kumarbari, the height of floors ranges from 6 feet to 8 feet whereas in case of Batuwa village, it ranges from 5 feet to about 8.5 feet above the ground. The Minyongs also live in stilt pattern of houses, similar in design with the Misings. However, the height of the houses in the concerned Minyong village ranges from two feet to 4 feet, much lower than that of the Misings of these two villages. Such raised platform houses of the Minyongs protect them from the attack of wild animals. Like the Misings, Minyongs use the space underneath of floor for various purposes like rearing of pigs, keeping and weaving looms and as storage of logs and bamboos required for occasional mending of wear and tear of the house. In case of the Misings, floodwaters flush out and clean out the dirt of their habitation to their great advantage. Recently, some of the Mising families who are economically sound, have constructed their *chang-ghars* with concrete pillars and posts (posts or the pillars are directly exposed to flood water) so that the wear and tear becomes less but such kind of modifications have lost the flexibility of the floors to flood levels. Generally, such kind of *chang-ghars* is more than 7 feet to 8 feet high from the ground in Kumarbari village and about 6.5 feet to 8.5 feet high in Batuwa village. During flood, raised houses (*chang-ghars*) provide normal cooking and sanitation practices as well as the people are safe from various health hazards that may arise due to the direct contact with floodwater. In a Mising house, the fireplace (*meram*) is considered very auspicious and it is placed in the middle of the house. Two shelves made of bamboo stripes-*perap* and *rapte* hang from the ceiling just above the *meram*. *Perap* is used as a platform for smoking fish and meat and for drying firewoods and paddy during the rainy season. *Rapte* hangs above the *perap*, is used for preserving rice-beer (*apong*) and sundries. The smoke from the *meram* also helps in driving away insects as well as mosquitoes and preserves the bamboo and cane products of the households. The smoked fish (*ngosan*), grinded fish (*namsing*) with yum (*ange*) preserved in bamboo shoots and dried meat (*adin*) is preserved for the lean periods, mainly consumed during the floods, which are kept over the shelves.

Both, the Misings and the Minyongs, construct the granary (*kumsung*) at a considerable distance from the dwelling house so that the accidental fire from the fireplace (*meram*) cannot reach it. It is also constructed on a raised platform like the dwelling house. So flood cannot destroy the stored grains. The Minyongs also call their granary as *kumsung*-built and designed similarly as the Misings. The floor and the four walls are made of bamboo matting woven very thickly and then plastered with mud mixed with cow dung. Such plastering is done so that insects, rodents and other animals cannot enter the granary. A small sized door almost the size of a window is fixed through which one can enter in the granary. The roofs are constructed with bamboo and covered with thatch. Thus, during the flood situation, the granary can be accessed with the help of a boat and the ladder.

Case Study 2

Name-Shri Tine Pegu, Age-40 years, Village-Kumarbari, Majuli.

Mr. Pegu, a cultivator as well as a petty-businessman, said that '*chang-ghar* is essential in Majuli where flood is a constant phenomenon.' He constructed a traditional Assamese house after his marriage with a raised mud foundation like the caste populations but with the increasing level of the flood from 1999, it is almost impossible to live in such kind of houses during monsoons. Besides, after the recession of flood, much time is required to dry-up the inside of the houses. He also adds up that such houses require costly repairing after every monsoon. Due to these reasons, he has built up a *chang-ghar* (about 7 feet from the ground) near to this Assam type house in 2008, which is much beneficial in challenging floods.

Transportation by Boat

Boat occupies an important position in the Mising way of life. It is the only means for transportation during monsoons. Therefore, Misings know how to roar a boat, irrespective of gender and age.

The boats made by them are slightly narrower and elongated than the boats used by the other neighbouring communities. They general-

ly make boats from wooden planks of *azar* tree (*Lagerstomea speciosa* L.Pers) or *champa* tree (*Michelia champaka* L.), which are locally available in the forest. According to them, the planks of these trees last longer under water. The elongated nature of the boat helps to keep more loads lengthwise and thus helps to roar smoothly in the strong currents of the floodwater. Further, such structure of the boat helps the boatman at one end to cut-across the boat easily with little effort. The slight upward bend of the front portion of the boat, which is unique to them, is advantageous to apply force with hand while moving to the bank of the river as well as to move the boat swiftly in strong upstream current of the floodwater.

CONCLUSION

Subsistence strategies of a population change if the ecological basic conditions change. The Misings after migration from the hills of Arunachal Pradesh to the new ecology of the fertile and flood plains of the Brahmaputra valley gradually discarded shifting cultivation and adopted permanent wet cultivation. In the beginning of this shift, they were extremely inclined to the *ahu* and *sali* paddy cultivation but in the last 20 years or so, due to increasing level of flood water and strong currents, the popularities of these two varieties has decreased. This is because flood occurs twice or thrice a year and each time the receding water deposits heavy silt on the cultivable land making it marshy and sandy. These days, the Misings cultivate *bao* paddy along with *ahu* paddy so that atleast one survives in case of early or high flood. The *bao* variety of paddy is viable in deep water and also matures early. It is interesting that the Misings of the two villages in the last few years have started growing millet (*ayak*) which is quite resilient to flood condition. Thus, new kinds of paddy have been added to the Mising cultivation with the change in the ecology. Like the Minyongs, the Misings of these two villages seem to prefer ash as traditional fertilizer rather than chemical fertilizers, which stick firmly to the stems and leaves, and not easily removed and eroded by the floodwater. It has been observed that the Misings have been using this traditional method of enhancing the fertility of the soil since time immemorial, perhaps prior to their migration to the plains because this method is also popular among the Minyongs. Many of the Mising fishing and hunting implements have close resemblance with the Minyong implements which are used during the recession of the flood water and when the flood currents are very high. Exactly similar kinds of implements (Porang and Di-bung) are used by the Minyongs for fishing in deep water streams in their habitat. Boats form an indispensable part of the Mising life during the floods and fishing. They generally make boats from wooden planks of *azar* tree or *champa* tree because the planks of these trees last longer under water. The elongated nature of the boat, which is unique to them, helps the boatman at one end to cut-across the boat easily with little effort in the strong upstream current of the floodwater. Boat-making is a trait learned by the Misings from the neighbouring populations of Assam after migration because according to a legend current amongst the Misings and Adis state that the Padam-Minyongs requested the Misings to help them construct some boats to sail the Siang river. It is observed that the populations other than Misings have started adopting *Chang-ghars* in the flood-affected areas of Assam, which confer immense advantages to the inmates. Thus, the Misings portray the features of both hilly and plains adaptation. They show continuity of certain hilly adaptive features that are beneficial to them in surviving and perpetuating the flood plains environment and innovated and imbibed certain new elements themselves as well as from the neighbouring plains populations to enhance their ability to exploit the environment and gaining maximum benefits from the challenging ecological constraints.

RECOMMENDATIONS

It is very interesting to note that the Misings of Assam after migration from the hills have settled down in the flood plain areas of Assam successfully with their native cultural elements as well as certain cultural traits imbibed as well as invented in the new ecology. It is the prime necessity at this time that the governmental agencies look into the environmental constraints and stresses so that they can improve their livelihood and have proper access to the new avenues of the survival opportunities.

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