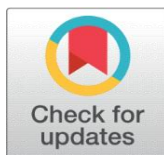
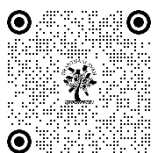


TRADITIONAL KNOWLEDGE OF THE MEITEIS IN THE MANAGEMENT OF FLOOD DISASTER

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ABSTRACT

Traditional knowledge of a people is transmitted through generations as a part of their livelihood schemas within the ambit of their worldview. It exhibits a deep understanding and ability to cope problems in their own ways. The Meiteis as an autochthone of Manipur, India also inherit traditional knowledge for responding disasters and managing the unavoidable hazards as a geo-cultural community depending on their environmental resources. It is an attempt to gather diligently the traditional knowledge about the flood disaster in context based on the scientific investigation through in-depth interview, observation, and case study methods. It assesses before, during and after disaster of flood and suggests adequate recognition of the local practices of the human-nature interaction in the national calamity database of climate change.

Keywords: Traditional Knowledge, Worldview, Meitei, Manipur, Flood, Disaster



1. INTRODUCTION

People in a society possess their own indigenous knowledge by experiencing their livelihood on the very resources of their eco-system. They have their own world view that cannot be easily understood and seen by the outsiders. Through the specific know-how of the people from day-to-day walk of life to overcome the hurdles and the experimental information about their dwelling environments, they develop their world view. Culture is not a hotchpotch of unrelated traits and episodes. Members of the same society experience to share the assumptions about the reality of how the world works. As they interpret everyday experiences in these assumptions, they make their own sense of their lives and their lives make sense of other members of the society (Schultz & Lavenda 1998 p. 155). Indeed, the worldview is the resultant that encompasses the picture of reality and the unique traditional knowledge of the people concerned. With this traditional knowledge, among various problems of their livelihood, people prepare and manage the disasters in their own way. Modern scientific knowledge might have been opposite to the rationale of the traditional knowledge of a society. But, stories in ancient civilizations such as the Pharaoh's effort of diverting the overflowing water of the Nile river into Lake Moeris sets validity of traditional knowledge in mitigating natural disasters (Coppola 2011).

Disaster is a serious sudden disruption of a community or society involving widespread human, material, economic or environmental loss because of natural or artificial cause. It may be natural or human caused disasters. Flood, earthquake,

hurricanes, droughts, cyclones, earthquakes, landslides, etc., are natural disasters whereas widespread destruction and distress caused by terrorism, electrical fire, social structural issues, industrial sabotage, etc., are human caused disasters. As described by International Federation of Red Cross and Red Crescent Societies, disaster management should be the management of resources and responsibilities for dealing with all humanitarian aspects of emergencies for the preparation, response and recovery so as to lessen the impact of disasters. So, it is the management to protect, prevent and recover the lives and property during a disaster.

In the present study an attempt has been made on the precaution and management of disaster by the Meiteis in their traditional system. The Meiteis are the autochthones of Manipur, the north easternmost state in India. In this state, they mainly inhabit in the central valley which is surrounded by hilly fringes. As they experience their day-to-day lives, they have understood their surrounding and found out traditional indicators of upcoming rain or drought. In other parts of the world too, a particular group of people can accurately forecast the certainty of weather through the observation of their nearby growing plants and certain fungi. In western countries, it is known as fascinating facts that dandelion, wild indigo, clovers and tulips fold the petals prior to rain while *Pleorotus ostreatus* (a kind of mushroom) expands prior to rain (Acharya 2011). Thus, the study of traditional indicators within one's ethnic worldview is at least academically significant. In the present paper, traditional knowledge of the Meiteis regarding natural disasters of flood will be discussed.

2. OBJECTIVES

The objects of the present study are

- to discuss the traditional knowledge system of the Meiteis in disaster management.
- to understand the prediction and preparation of flood in the indigenous way.
- to discuss the Meitei traditional way of disaster management during and after flood.

3. METHODOLOGY

The present study adopts the scientific method of observation and in-depth interview from the key informants such as local resource persons called *maiba* (male informant), *maibi* (female informant) as well as the elderly persons who experienced the disasters. The informants are residents of Imphal East and Imphal West districts of Manipur. In addition, data from secondary sources were used as supplement.

4. RESULT AND DISCUSSION

In Manipur, floods have been one of the major disasters that may also cost human lives. It also reduces the economic status of the state particularly in agricultural sector. Majority of the Meitei settling in the oval shaped central valley surrounded by hilly areas face floods frequently due to seasonal rainfall. The valley constitutes only about 10% of the total area of the state (2238 km² out of 22347 km²) (Directorate of Economics & Statistics, Government of Manipur 2017). Rivers from the surrounding hills flowing down the valley very often cause flash floods while the hilly areas suffer from landslides during rainy seasons (Zutshi and Verma, 2015). Higher the intensity of rainfall in the hilly region, higher the chances of flood in the plain region.

The Meiteis have a good knowledge of their bio-resources which are of good use in the time of disasters and calamities. The study diligently gathers data of flood disaster management - before, during and after disaster.

i. PREDICTION AND PRECAUTION

There are certain natural indicators for heavy shower of a year. When the people observe massive lines of ants carrying their eggs climbing up to higher places such as wall of house and plants, predict heavy rainfall to cause flood. Unnatural chirping of certain birds and croaking of frogs in swampy areas also point to upcoming of rain. Again, when crows build their nest on the top branch of *Ficus rumphii* (local name: *Khongnang*), a tree which is not grown in homestead, it may indicate flood, less wind, and windstorm in that year. If they make their nest on the lower part of the tree, people may face strong winds but scanty rain. If *Hibiscus cannabinus* (local name: *Sougri*) blooms a large number of flowers, it means another prediction of good rain. If its flowers stop blooming, it indicates the end of seasonal rain. The ending of flowering is marked when its flowers have started blooming towards the south-west direction as well as changing of its green leaves into violet tinged ones. Then, there is no more threat of heavy rainfall. If the vegetative part of *Platyserium wallichii* (local name: *Saji machi changkhrang*) which is a very rare epiphytic fern (Jain and Sastry 1980) turns dark green, the

local people forecast imminent rain. But, if its colour is dull, no rainfall is expected in the immediate future (Singh 2011). These are natural predictions of rainfall and flood.

In addition to the bio-indicators, the Meiteis also observe the first rain of monsoon which is further translated to meteorological prediction via spiritual realm. It is locally known as *nong tamba*. There are certain guardian deities of eight directions. Lairema Kounu is guardian of north, Lok Ningthou – south, Nongpok Ningthou – east, Loyalakpa, son of Koubru and Kounu – west, Thangjing – south-west, Marjing – north-west, Wangbren – south-east, and Koubru – north-west. If *nong tamba* points to lord Wangbren, it predicts flood; if it points towards Thangjing mild to medium shower; if pointed towards lord Loyalakpa it means rain associated with strong wind; if it is related to Lairema Kounu it predicts frequent and repeated rain; and so on. There are also other occasions such as Durga Puja festival in autumn for climate forecast depending on the mother goddess's divine stead *en-route* heaven and earth. If she left boat on earth, it means flood. The people commonly suffer flood twice a year – first the monsoon rain in *inga-ingen ichao* (June-August) and *mera ichao* (October-November). The prediction of the first flood is correlated to *nong tamba* while the latter is predicted post Devi puja.

There are again traditional drainage managements to avoid flood. Each and every homestead is surrounded by drains. Localities called *leikais* are mostly separated by drains. Besides, during king's rule in historic days, rivers and streams were taken care for good flow of water. *Tutenglom*, one of the archival manuscripts locally known as *puya* maintains the record of making, cleaning, and improving channels of waterways. King Taothingmang (264 –364 A.D.) and his elder brother Yoimongba adventured in improving waterways of all rivers towards south by encountering many strong opponents like Phunal Telheiba and Kaklen Meengamba (Singh & Singh 1967). During the early 1990s, there were records of deepening the stream of Khongman Waisel and diversion of the Imphal river in Imphal. Thus, Meitei state system had a long history of flood management strategies associated with local belief system; widening of water channels and clearing river channels from blocks of wastes were common ways.

ii. DURING FLOOD DISASTER

Floods being one of the frequent natural disasters, people devise many ways of coping with them. They grow crops that can sustain submergence in the flood prone areas during rainy season. But, when water level rises, people collect goods such as cloths, valuables, etc., to bind into bundles and keep at high and save places. When the condition of flood becomes severe, even the beds are piled up, weak and children are shifted to safer areas. But, some of the male members remain in the house at night if the condition permits. Some big banana plants are cut down and made raft by piercing through with bamboo poles for conveyance during flood time. It is locally known as *pong*. Food, utensils, drinking water, etc., are transported on *pong*.

In the meanwhile, menfolk gather and put the collective effort to construct high embankment and block the passage of flood. Collective responsibility is shared by one and all during disasters. During the period of disaster, people's solidarity is quite visible as acquired from their traditional social system regardless of any social hierarchy.

Mentioning a case, an elderly woman aged about 77 years from Imphal West remembers many instances of flood in her lifetime. She usually takes up cautions whenever there is heavy rainfall for about a week. She believes that if rain starts on Tuesday, it continues for a week. Her consciousness saves her many times from heavy damages even during floods reaching up-to waist level.

iii. AFTER DISASTER

Some informants expressed that after disaster is more dangerous than during disaster. They have to restore and rearrange to normalcy. Silt deposits and scattering wastes are to be removed. Crops are needed for more care. Houses are to be cleaned up. In rural area, most of the house walls are made of mud and so, these are needed to be repaired. Damp condition may lead to various epidemic diseases and precautionary measures are taken up. Water borne diseases like gastroenteritis and cholera and water infections like jaundice are highly possible due to unsafe drinking water in many locations. Cold and fever due to long humid condition are also possible. Community organizations effort to control such diseases are done as far as possible. Traditionally, ethno-medicinal applications are used for curing and preventing after disaster epidemics. The Meiteis own a vast knowledge of ethno-medicine based on experiences with plants and trees. Though in many cases, allopathic medicine is thought to be advanced with immediate effects, the people in context still believe in ethno-medicinal remedies. Some of the endemic plants used during such times are produced here. Fruits of a thorny shrub called *Solanum nigrum* (local name: *Leipungkhang*) which grows wild is steamed on the surface of rice while cooking or consumed raw with or without chilly chutney (locally known as *morok metpa*) for sore-throat, cough, asthma, diarrhea, etc., (Sinha 1996). Leaves or bud of *Blumea balsamifera* (local name: *Langthrei*) are traditionally prescribed as expectorant, cough, etc. Ethnomedical lore of the people does not allow outsiders to pluck its leaves to

avoid the extinction of the herb and so, the growers give it when sought by neighbours. Leaves and flowers of *Phlogacanthus thyrsiformis* (local name: *Nongmangkha*) which is a gregarious shrub, is preferred for remedies of cough, cold, fever and asthma. The leaf and flower parts of the plant are also taken as food item in daily meal and public feast. An elderly informant reported that she sends its dry leaves for therapeutic purposes to her daughter's family living outside the state. The daughter also responded positive effect in treating ailment of her wards and reported instances of prevention before severity.

5. CONCLUSION

From the above discussions, it may be concluded that traditional knowledge is significant for functioning the crucial role in disaster management among the Meiteis of Manipur. Natural indicators have been periodically observed to avoid heavy loss. Flood is a vulnerable disaster in the valley of Manipur state because of incessant downpour as it is the catchment area of surrounding hills. Regarding the flood disaster, the Meiteis use natural resources as a precautionary tool to minimize the tragedy of flood. For the post flood disaster management in spreading epidemics, as mentioned by some informants, allopathic measures are recommended for quick effect though traditional remedy is not of less value. Such traditional knowledge may be recorded as national information in restoring environment and climate change as it has contributed to humankind's collective wisdom in taking up appropriate precautionary measures related to calamities.

CONFLICT OF INTERESTS

None.

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