

TRADITIONAL WATER MANAGEMENT IN MANIPUR

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INTRODUCTION

Generally, the climate of Manipur can be described as a monsoonal one, characterised by the annual rainfall of the prevailing wind directions separated by two transitional seasons. The monsoonal rainfall regime is regarded as one of the dominant factors to decide the fate of the Meitei civilization. The valley of Manipur has been a lowland type and it slopes southwards so that all the major rivers of the valley run towards the south and all join each other in the middle or lower regions of the valley. Usually, the valley of Manipur is divided into three regions like peripheral belt, good bottom land and the lake region. The rivers and dozens of lakes and streams of Manipur considerably have provided fishing grounds and transport facilities. Due to receiving enormous rain in the past the entire valley almost faced the problem of inundated flood water every year. This situation practically compelled the rulers of Manipur to develop the idea of management of water. Essentially both ecology and topography certainly had a profound influence on the technology-less developed inhabitants of early Manipur. This intimate relationship between environment and technology became more significant than other types of culture influences directly on the ancient inhabitants of Manipur to engage in different occupations.

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The clan people in the beginning were in all probability highly concerned regarding water bodies and depended highly on nature. They benefited from the natural from the natural water bodies. Therefore, they selected the water body areas as their habitational ground to get transportation, daily use to water, fishing and gathering facilities.

It is mentioned that during the reign of Luwang chief Shapaina, Lamphel Shoy Wier was established. They planned it not only to catch plenty of new and fresh fish but also to entrap animals. He was responsible for digging two different pisciculture of Ngaroi fish (*Crossocheilus burmanicus hora*) [1]. Mkubi Shoy (weir) was built under the complete supervision of Luwang Salai Hanba. It was particularly prepared for fishing. Nambul Shoy (weir) was given to Yumburembi of Kanglei as a dowry when she was married to Thangyi Ningthouba of Luwang. They had three sons like Naoremton. The management of this Shoy (weir) was handed over to their eldest son Pathang Ahanba. The two types of fishing such as Aka Shoy (fishing during the flood season) and Akum Shoy (fishing during the winter of the dry season) were done in the aforementioned Shoy in two alternative seasons. During the rainy season, various number of fishes were caught in this Shoy. Another form of fishing like Akum Shoy was carried out during the winter season in which particular Ngashep fish (*Mysrus bleekeri*) were caught in such Nambul Shoy. Later on, the right of management of this Shoy was passed to their youngest son Naoremton at the instigation of his mother. However, Nambul Shoy was given different names i.e., Lumpu Shoy, Hekap Shoy, Hesgotpan Ngashep Leikang-Ee, Akum Lairak- Ee and Lanloi Chingareng Khamla Loukhong Shoy [2].

At Kanglei Wakhei Kon of Turel Langmei Pung (Heipok River), there was a shoy owned by Theba Nahakpa. The Kanglei chef exercised his power over this shoy (weir). He allowed Heirem-Khunjam clan women to catch fish at the Heipok River. Khaba Shokchrongba is also fully prepared to catch fish in this river [3]. Heirem Khunchem erected a 'Pn' or dike across a canal fallen into Konte Pat or lake. Here, he created a shoy by using Kharai (made of knitted bamboo pieces). Metal shoy was owned by Thingkonpa, a young man of Heiren [4]. The chief of the Heirem was responsible for making the Heirem Nongyai Khong canal mainly for fishing purposes. This canal was also known as Ngakha Khong (*Puntius puntio*) This fishing canal was developed typically. When a cow went through it, the cow's tail did not touch the water of this canal; when a pig crossed it, the entire body of the pig could not be covered by the water of the canal; when a dog passed over it, dog's belly did not touch canal water [5]. It was mainly meant to allow the fish to grow and multiply this canal. It developed as an indigenous method to culture fish.

Khuman Nongyai Napanpa dug a canal at Thoubal. It was created to store water for daily use. Lokha Canal, Nongyai Leishangkong Canal and Khoupuba Khong or canal were excavated under the supervision of different Khuman personalities like Aton Nongyai Lokcha Heipa, Leishapam Moipa Phap and Nongai Khoupuba [6].

Kainou Chingsomba of the Angom clan made Chingsomba khong (canal). Chonmeibi and Chonmeiba, these two soldiers dug Chonmeibi-Chonmeiba Khong (canal) Khamtoubi and Khamtoubi created by Kamtoubi-Khamtoubi khong (canal). The four canals such as Chongsomba Khong, Kanglatombi (present Imphal municipality) Khonglen Yai, Chonmeibi-Chonmeiba Khonglen Yai and Khamdoubi-Khamdoubi Khonglen Yai were joining each other to Paota Hiden of Turel Achouba or Impahal River near Kangla [7].

Moirang chief to administer his principality amicably, organized manual labours to conduct various water work programmes like making canals and waterways and establishing fishing 'Shoy'. Nganba Serai Kangcha of Moirang excavated the Hoatangkong canal to provide daily use of water to his subjects [8]. During the reign of Puriklai, fishing 'Shoy' (Weir created across the canal or stream to catch fish) was established at Ungamel near the confluence of the Khuga and the Manipur River. Its main object is to catch plenty of fish. Ningthou or Chief Puriklai Miyom Michaoba of Moirang unearthed Moirang Nongkangkong at Khoiritak particularly to trap animals [9]. In order to facilitate fishing, he initiated to set-up of the Laphu Khumtam Shoy (Weir) Keke Kokpa Naoremthong Huithouba canal was built for fishing purposes. Chief Yoirel Tompokpa accomplished to create Khuyon Penba Shoy not only to catch Pengba Fish (*Osteobrama belangeri*) but also to get a water transport facility. Toiyal canal was built mainly for boat transportation [10]. Sanathoibi Shoy is located between the Khuman clan and Heirem Khuncham clan territories and was owned by Kege Moirang Leima Angom Ningol Sanathoiba [11]. By carrying out welfare public water works, Moirang Cheifs could attract the massive loyalty of his subjects. Besides, the people of Moirang regarded their chief as the descendant of their supreme god 'Thangjing'.

Purum Khonglem Ching or Kangla hillock had its seven ranges. Naturally, it was surrounded by different lakes i.e., Kekrupat, Akampat, Porompat, Nungjengpat, Hichamyaichampat, Uphongpat and Lamphelpat [12]. The height of Kangla was about 2619 ft. above sea level. Seven streams arose from these ranges and drained out their water in the surrounding lakes and rivers [13]. Besides, there were other Khonglams (canals) namely Khakhong, Laikhong, Mrokhong, Lilhakhong, Phisukhong, Charoikhong, Yambikhong, Manungkhong and Nongdamkhong. The term 'Khonglam' (Khong-canal and lam-line or road) is identified with canal [14]. It can be estimated that this canal was dug out to drain the water of the lakes and swampy areas. On the other hand, the aforesaid canals were excavated to establish a link between Kangla and the surrounding lakes and rivers which were connected to other far-flung areas.

Khakhong canal was created to join the Imphal River and Keishampat Lake. Laikhong Canal linked the Imphal River and the Lamphelpat Lake. Both Merakhong and Charoikhong canal were dug to join Porompat Lake and Imphal River. Lilakhong canal was unearthed to link the Imphal river and Hichamyaichampat Lake. Yambikhong Canal was created to link the Kekrupat and the Imphal River. This interlinking of rivers and canals shows the ingenuity of the valley people to retain a sensible flow of rainwater from one region to the other. (It is already stated that the valley had increased rainfall during the rainy season).

Generally, the periodical monsoon rain caused seasonal violent floods which destroyed the planted fields and affected also the low-lying settlement areas. To prevent from eventual floods, the control of different water bodies either profitable or unprofitable would be an inevitable task of the kings of Meitrabak (Manipur). The literary text like Tutenglon (history of Dredging River) clearly explains that both the royal brothers namely Ngangoi Yoimongba and King Yoiheiton Toathingmang dredged the Turel Achouab of the Imphal and the Iril rivers. It also further mentions about the organization of large human labour groups including women to carry out such a gigantic unprofitable water work. King's direct physical presence to the public welfare work not only developed the sense of belongingness but also drew the loyalty of the subject [15].

A frequent occurrence of floods took place in Poireipak (Manipur) during the kingship of Medingu Pingsiba (379-394 A.D.) Such a flood caused great havoc, particularly to the valley people of Poireipak. In order to control this severe flood, the king began to undertake the work of deepening the bed of the Imphal River in the valley. The king also initiated to carry out the diversion in the upper reaches of this river at Thingba Karong to the river Gwai or Barak in the Maram hill area of the kingdom of Poireipak [16].

Nongchup Merakhong Canal was created during the reign of King Thawanhaba (1195-1231). The stream ran on the western side of Kangla and served the purposes of draining water and transport. This canal was dug by war prisoners namely Nakhuba Nakuni and Haoba Thikaba [17].

It was during the reign of King Tabungba Ahingkhon Canal was unearthed overnight to defeat the powerful Kege or Moirang. Under the direct supervision of Thingpaingambi mother of King Kambomba (1524-1542), a canal named Thingpaingambi Khong was excavated [18]. Leima Ningthoingambi wife of King Ningthoukhomba was highly concerned about unearthing Shayakhong [19].

Of course, with the expansion of territory and the political development of the kingdom, the Meitei Kings relentlessly continued water managerial programmes to meet the requirements of the Kingdom's administration. When the Cachari Muslims under the rebel leader Sanongba younger brother of King Khagemba dug a long canal extending from Phumlou to Toupul. It was mainly unearthed for defensive purposes [20]. It was during his kingship, under the strict care of Ebungo Nongthonba, that a stone dike of Pn was constructed at Mayanglam as an effective wall to control floods around the valley region. King Khagemba paid more attention to provide good transportation facilities to his subjects by digging the Kyang Khong and Takhel Khong canals [21].

Queen Lengnaomonbi, wife of King Khagemba dug the Chakppa Pumshaikhong canal by organizing the entire people consisting of women and children of the village. Queen Taiponganbi took a great role in digging a fishing canal called Leima Taipombi Lamlei Ngayok Khong. Thus, the Meitei queen played a decisive role in enhancing the kingdom's economy which led to a strengthened state apparatus [22].

King Khagemba tremendously improved the water transport system of the kingdom by undertaking large-scale water management work. From Chinga of Singjamei to Thangmeiband the bed of the Nambul river was dredged during his reign. Such work resulted in deepening and widening the river bed which made more advantageous river transport. It is also reported that under his care the Imphal River was blocked by making a dike at Sanjenthong in the mouth of Poinu (December and January) nine lunar month of the Meitei to preserve water. He also initiated to drain the Naga stream and built a dike along the course of this stream in the month of Hiyangei (October and November) eighth lunar month of the Meities in 1661 specially to check the flood. No doubt, the welfare water management works under strict supervision state was regarded as a real mechanism of statecraft.

King Paikhomba systematically blocked the Naga stream in 1683. Possibly the lower course of its bed was dredged to deepen. He repaired the bank of the Imphal River from Singjamei to Thongju in the month of Wakching (January – February) tenth lunar month of the Meiteis. King Charairongba dug the Imphal River in the Khurai area to deepen and strengthen the river course [23].

In 1718 March, King Garibaniwaz dredged the Imphal River at Singjamei. In the same month of that year, both Naga Thingel (dike) and Kaya Thingel were made to preserve water. He constructed the Waithou Thingel dike across the Waithou stream in the month of Poinu the four panas or divisions undertook the repairing work of the Imphal River from Kona Konchin to Koirengei. It was the pre-plan arrangement of King Garibaniwaz to check the river flood in these areas. In 1738, in the month of Langban (September) the sixth lunar month of the Meitei, the king launched a huge programme of digging earth at Sagolband and created a new canal extending from Naoremthong to the Nambul River near Khwairamband market. The stream which ran southward direction was diverted to eastward by cutting a new canal at Sagolband. The newly made canal because of the course of the Nambul River, a part of these dedicated welfare water management programmes for the first time state paid attention to profitable water works. Thus, during the reign of King Garibaniwaz an irrigated canal was dug at Yarou. He continued to refit the Imphal River from Kona Konjin to Laishangkhong. Further repairing work was also conducted on the same river from Phibou to Phabakchao. King Garibaniwaz sponsored to dig a public pond named Ningthem Pukhri to store drinking water. Another pond was also dug at Kongba [24].

During the reign of Maharaj Bagyachandra, the Heipok water route through the Mayangningthou Nai area was dug under the supervision of Chingkhamba Tangkhomba and Hinaohanba. A new river was dug at Cachipur. It was stated that from Mongsangkei to Khajingkhong, Nambul was drained. In 1782 a pond at Langthabal was dug. Under the order of Anantasai, Keiroilakpa Malati (noble) by organizing seven Keirpoi lineage, dug Lamlongei pond. In 1783, Anantasai Jubaraj led the entire people of the kingdom to be involved in the construction of dikes at the Iril River of the Ethem Chingjin area. The main object of making was to check river flood. It was completed within nine days. The bank of the Naga stream was drained. Besides, the king was responsible for getting the potholes filled up and weak areas of The Imphal River beyond the Lilong area. By organizing the entire people of the kingdom including Loi+Nai (Loi-Outcaste community + Nai- servant). Bhagyanchandra deputed Shanglakpas (nobles) of the four panas (division) to dig Chandrandi from Chaumkei to Lamangdong. The work was finished within two months. The Kabuis of the hill areas were organized by the king and they were assigned the repair work of Chandranadi river embankments. From Koirengei, the Imphal River was drained to regularize the flow of the river. By organising the entire people of the Kingdom, Maharaj Bhagyachandra initiated to dig a canal named Leishang Hithen. Its main object was to make a proper place for the boat race [25].

Presumably, the continuous welfare public water works conducted by the Meitei King were the regular mechanism to cultivate loyalty as well as support of their subjects. As his predecessors did, Maharaja Modhuchandra began to grub up a pond at Langthabal capital. In 1811, the Imphal River was blocked by building dikes across the river to store water. An irrigated canal which extended from Kyamgei to Hyen Khong was created to supply water to the paddy fields. The Meirenhong Canal was also repaired. In 1842, King Narasingh drained the Imphal River to make a regular flow of river. The reopening of a river course which runs inside the Kyang Engkhol area was taken up under his supervision. The king went to look after the work of making dike across the Imphal River at Khumidok village in the month of Engel (July) particularly to restrain flood. The people of the thirty-two hill villagers were assigned to excavate the river bed inside the Kiyang Engkhol area to regularize the flow of water which had been hindered by sediments and the fallen mud embankments [26].

In 1857, all the tribes of the north of Manipur were assigned the digging of a water transportation route extended from Angom Louwai Chingaren to the Khabeisoi area. Sana Thoumanbi stream which falls already in the Kangbung agricultural fields was diverted to Leimakhong cultivable fields. Luwangyi River was drained by the tribes of the north of Manipur. Of course, Thiyam pat was transformed into Ningthem Loukon (cultivable land owned by the king) and Chingphu Loukon (cultivable field) was developed. Phabakchao canal and Ingourok irritated canal were respectively excavated. Several ponds like Yatpokpi Pond, Yumjao Pond, Wangon Pond, Keitenbi Pond, and two ponds of Govinda were drained one after another. Under the direction of Loitongba Subedar water transport route extended from Maklang to Eroishemba Chingjin. Naoremthong canal at Khongjom and Nganggoukhong canal were constructed [27].

Conclusion

The pristine Meiteis extensively undertook a number of non-agrarian hydraulic works. By utilizing limited primitive technology and available materials constructed several temporary dikes across the rivers and streams mainly during the winter of the dry season to store and supply drinking water. Normally, the Meitei kings had full-knowledge ponds inside the palace compound and thickly habited villagers to store usable water. Primarily hydro managerial work necessitates some basic mechanisms like maintenance, personal quality and organisation. The water control programme brought to thrive a centralized organization of large human labour under a single authority. Such a pattern of organization was usually done by amicable kings whose sole responsibility was management. In the case of the Meitei kingdom, only the rulers were successful in doing such work [76]. However, the Meitei Kings were not only considered competent organisers but also tactful managers. The hydro managerial works successfully tended to strengthen the centralized power of the king. Moreover, the Meitei kings were able to draw the massive loyalty of their subjects.

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