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Article

Wetlands in Majuli: Exploring Culture-Environment Nexus

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Abstract: Wetlands play a crucial role not only in providing ecological services but also in enriching the cultural and spiritual life of human society. Despite this, their cultural values have often been overlooked. The formal recognition of cultural values began with the Ramsar Convention in the 1970s, which acknowledged wetlands as resources of great economic, cultural, scientific, and recreational value. The wetlands of Majuli are of profound cultural and socio-cultural importance, particularly in terms of religious and spiritual significance, as well as recreational value. This study examines the cultural services provided by the wetland ecosystem of Majuli, focusing on its significance in the local human-environment nexus. Utilizing a qualitative approach with quantitative aspects, data was collected from primary sources through observation, interviews, and group discussions, along with secondary sources such as books, journals, and web portals.

Keywords: wetland; cultural services; human-environment nexus

Introduction

Wetland is not only significant for its ecological services, it plays a vital role in the cultural and spiritual life of human society. The cultural values of wetlands were always ignored in mainstream discussion. The identification of cultural values formally started with the effort of "The Ramsar Convention" in the 1970s. The preamble of the Ramsar Convention recognized cultural values. The preamble says "Being convinced the wetlands constitute a resource of great economic, cultural, scientific and recreational value, the loss of which would be irreparable" (*Culture and Wetland: A Ramsar Guidance Document*, 2008).

The World Heritage Convention acknowledged the cultural significance of wetlands in 1992. In addition to "cultural sites" and "natural sites," this convention includes "cultural landscapes." In these instances, specific locations were chosen for evaluation based on their distinctive cultural features; if they met the standards and fulfilled the criteria, they were added to the list of "World Heritage Sites".

Global environmental conventions like The Convention on Biological Diversity (CBD), The Convention to Combat Desertification (UNCCD), The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), The Convention for Regulation on Whaling (ICRW) creating an approach for resource management along with the aspect of cultural diversity.

In 2007, the declaration of "*The Rights of Indigenous People (DRIP)*" by the United Nations is also a significant indicator that explains the interrelation between culture and natural resources or environment. This convention promotes and protects the biological and cultural diversity of indigenous people.

The natural resources available nearby shape the culture of people. The natural resources available nearby are utilized by the dwellers as a means of conveyance, clothing, making of their houses, and food habits, thus it has a cultural significance. The presence of fishing, grazing, and cropping communities living in the proximity to the wetlands developed a social relationship within them (McInnes, R.J., Everard, M. (2017). Walking, jogging, bird watching, and other commercial and recreational activities also developed a social relationship with in and around the wetland area.

The diversity of ecosystems worldwide is intricately connected to the vast cultural diversity of human societies. These natural systems serve as a backdrop for recreational activities and inspire

literature, art, and creativity. Human knowledge and understanding of the world are significantly influenced by observing and interacting with natural processes. Even with modern conveniences, people seek comfort and a sense of belonging in nature. These intangible benefits, though immeasurable, remain highly significant (MEA, 2005).

Nature and Culture

Culture can't be understood without referring to nature. The human and human society participates in different orders of existence together. This concern of human diversity is adequately discussed by anthropologists. According to Claude Lévi-Strauss culture distinguished human from animals. A relationship described by Marx (1963) in his early writings as "the humanization of nature" and "the naturalization of man".

The complex interconnections between humans and their surroundings fall under the purview of environmental or ecological anthropology (Salzman & Attwood, 1996). In this context, the environment transcends being merely a set of objects to which people conform; it embodies an intricate web of ongoing reciprocal adjustments between culture and the material setting (ibid.). The term "environment" extends beyond the biophysical realm, encompassing human interactions with and cultural interpretations of the context in question. Through behavioural, social, and cultural regulatory reactions, man (We) interacts, adapts, and changes to the physical environment around him. These can be explained by three concepts:

- Environmental determinism
- Possibilist approach
- Ecological approach

Environmental determinism states that human society and culture are determined by nature; human adaptation to nature; and nature also acts as a limiting factor or constraint to the human potential. In other words, the environment influences culture based on the nature and method of resource exploitation, although some cultural variations are unaffected by geographic factors. E. C Semple (1911) and Friedrich Ratzel (1882) were the two main pioneers of environmental determinism. The idea of Ratzel was influenced by the Darwinian Theory of evolution. It advocates that the physical environment actively influences the evolution of life forms on the earth's surface.

E.C. Semple, a geographer from the United States, was Ratzel's student. She passionately promoted the cause of environmental determinism after being thoroughly indoctrinated by her well-known work *Influences of Geographic Environment* (1911). He says that earth has mothered him, nourished him, assigned him chores, guided his ideas, and penetrated his bone and tissue as well as his mind and spirit, not just that he is a child of the earth and dust of her lust"

The possibilist perspective contends that the environment is not a direct cause but functions as a factor imposing limitations or offering selective opportunities. While the environment does establish boundaries on human possibilities, the ultimate determinants of choices lie in the interplay of historical and cultural variables. This standpoint, advocated by Boas and documented in Boas (1986: 901–908), rejects the notion that the environment serves as the primary driver of cultural development. Boas, in his pursuit of unravelling the intricate tapestry of cultural variations, delved into the unique histories of individuals.

According to Boas, individuals exert their agency in engaging with and utilizing nature based on their cultural perspectives. The trajectory of cultural change, he argued, is shaped by these cultural choices rather than the inherent characteristics of the natural world. Essentially, Boas asserted that culture holds precedence over environmental factors in influencing the evolution of societies (Bennett, 1976: 165). Boas firmly believed that comprehending and valuing the complex web of human cultures necessitated acknowledging the paramount role of culture itself.

The ecological approach now aims to further specify the interactions between people and their environment by including them in a single analytical system called an ecosystem. The fundamental unit that serves as a heuristic tool to characterize the interaction between living and non-living elements of a specific habitat is the ecological system, often known as the ecosystem. The term "ecosystem" refers to the grouping of related species of living animals in a non-living physical

environment as well as the structural and functional interactions between them. The eco-system is the overall context in which adaptability takes place in the study of human adaptability.

Methodology:

The study used a qualitative approach with some quantitative aspects. Data was gathered from primary sources through observation, interviews, and group discussions, as well as from secondary sources like books, journals, and web portals.

Objectives of the Study

1. To analysis the cultural services provides by the wetland ecosystem
2. To understand the human environment nexus in Majuli

Wetland Ecology: A Symbol of Culture in Majuli

The Majuli river island in Brahmaputra river lies between 26°49' and 27°22' N latitude and 93°39' and 98°35' E longitude and is situated in state of Assam in the north eastern part of India. The total area of the island is about 875 km. having a length of 80 km. along with the river Brahmaputra and a breadth of 10–15 km in the north-south direction of the state with a population of 0.2 million. The River Brahmaputra divides into two channels – the northern Kherkutia channel and the southern Brahmaputra channel between Dibrugarh and Lakhimpur Districts and both the channels join again about 85 km downstream at Ukhalchuk - forming Majuli, the largest inhabited river Island in the world. The width (in North-South direction) of island varies between 10 Km to 15Km).

Majuli, due to its geographical position, is found to experience a rapid degradation. For its peculiar location within the mighty Brahmaputra river, it has 155 big and small wetlands around it, which remained the source of fishing occupation for a larger section of people. Majuli possesses a large number of wet-lands as well as swamps. A good number of natural drainage channels are found to drain the Island. But it is reported that in comparison to their existence in past there is a large-scale degradation of these water bodies in the island

The wetlands of Majuli hold significant cultural and socio-cultural importance, with a range of values associated with them. Among these values, the religious and spiritual aspects stand out as integral to the local community's way of life. The wetlands are considered sacred by many, and the belief in their spiritual significance is deeply rooted in the culture of the region. The recreational value of the wetlands is also significant, as they provide a space for leisure activities such as fishing, boating, and bird-watching. These activities contribute to the local economy and provide opportunities for both locals and tourists to connect with nature. The cultural and socio-cultural values of the wetlands in Majuli are multifaceted and contribute to the unique identity and way of life of the local community.

Settlements Structure

Wetland influences the settlement structure in a society. Human civilization itself started in the bank of water sources. In the present time, most of the tribal people inhabit nearby the wetland. Especially in Majuli if we look at the settlement's structure 70 percent of the total population of Majuli is comprised of tribal people and most of the tribal communities have their settlements near the wetland. It is also obvious that the fishermen's communities usually live near wetlands.

Presently, it is observed that people started moving toward the wetlands in Majuli because of population pressure. It is found from the fieldwork that two new villages have been established near the studied wetland. People have started settling on the edge of the wetlands. Along with population pressure the wetland areas hold many possibilities for income generation for which people started moving towards the wetland areas.

The Nature Culture Syncretism

Wetland ecosystem has a strong influence on many cultural and traditional practices of the dependent communities. During winter when the wetlands become shallow, people from nearby villages go for community fishing. Men, women, and children all take part in large numbers and the event is like a festival. They use traditional fishing gear and catch fish. After catching fish a feast takes place in the bank of the fishing site. People used to carry all the necessary utensils and they cooked and took food together. This practice not only entertains people but also brings harmony and brotherhood among the local people.

The edges of wetlands and the surrounding low-lying land constitute suitable areas for grasslands and grazing. The presence of grassland and grazing spaces makes it an ideal location for livestock. In Majuli, the traditional method of controlling stray cattle from roaming freely in the fields and causing damage to crops is through the use of a "paund." This practice involves capturing the stray cattle and confining them to a designated area known as a pound. The pound serves as a temporary enclosure where the cattle are held until their rightful owners claim them. When stray cattle are found wandering and grazing in fields or crops, the community members come together to round them up and bring them to the pound. The pound is typically a fenced or enclosed space that prevents the cattle from escaping and causing further damage. It acts as a form of temporary captivity for the captured animals.

The pound serves as a disciplinary measure, punishing the owners of the stray cattle. To retrieve their animals, the rightful owners must pay a specified amount of money as a penalty. This payment acts as a deterrent, discouraging cattle owners from allowing their livestock to roam freely and causing harm to others' crops. Once the owners pay the required amount, they are permitted to take their cattle back from the pound. The animals are released to their rightful owners, who then take responsibility for ensuring that their cattle are properly managed and kept within their boundaries.

This traditional method of utilizing a "paund" not only acts as a means of controlling stray cattle but also serves as a mechanism for maintaining harmony within the community. It encourages responsible ownership and discourages the destruction of crops by stray animals. The use of a pound as a means of controlling stray cattle demonstrates the resourcefulness and community-driven approach to resolving issues related to livestock and agriculture in the area. In recent years, the practice of using pounds to control stray cattle has significantly declined in Majuli. As the cattle population has decreased, the need for strict measures to control their movement and prevent damage to crops has diminished as well.

According to the respondents, despite of degradation of grassland, they continue to uphold traditional methods of conservation. One such practice they mentioned is called "*Khuti Mara*," a technique that involves driving a pole or branches of a tree into the ground to mark a specific area within the grassland. This designated area is referred to as "*Ghah Rakha*," which translates to "reserving grass" in the local language. The process of *Khuti Mara* entails carefully selecting a suitable location within the grassland. A person takes a pole or branches and firmly inserts them into the ground, creating a visible marker that delineates a specific portion of the grassland.

Once the *Khuti Mara* is established, the person who drove the pole or branches is granted exclusive rights to collect grass from that particular area. This means that other community members are not permitted to gather grass from the reserved space. The practice of "*Khuti Mara*" and "*Ghah Rakha*" serves as a traditional mechanism for resource allocation and sustainable grassland management. By reserving specific areas for individuals, the community ensures a fair distribution of grass resources and prevents overharvesting. This method allows the grassland to regenerate and maintain its productivity over time. The significance of these practices extends beyond conservation and resource management. They reflect the cultural values and customs of the community, showcasing their deep connection with and respect for the grassland ecosystem. By adhering to these traditional methods, the community demonstrates their commitment to preserving their natural surroundings and maintaining a harmonious relationship with the environment.

The grasslands in these villages held significant importance for the local communities. They served as valuable resources for various purposes, including livestock grazing, thatching roofs, and

other essential activities. The ownership and control of these grasslands were closely tied to the livelihoods and survival of the villagers. When someone who did not possess the rightful ownership or permission attempted to gather grass from these areas, tensions arose.

Wetland in the Traditional Irrigation System:

Traditional water management systems found in various agroecological settings across the world have been developed by indigenous communities, drawing upon their traditional knowledge, local resources, and collective efforts (Bekele and Tilahun, 2006; Parajuli, 1998). These systems reflect the ingenuity of peasants who have relied on their deep understanding of the local environment and sustainable practices to manage water resources effectively.

In the traditional irrigation pattern of Majuli, the wetlands play an important role. Often seen small and medium-sized man wetland is used as the source of irrigation. It is proven that wetlands are a sustainable source of irrigation ((Behnke & Scoones, 1993; Scoones, 1991). The following are the traditional irrigation methods used by the people of Majuli-

a) Dong: The Dong system of Irrigation was formalized in the 1990s by creating the Dong Bandh Committee in Assam. The management and funding cost is paid by the local communities. Dong is one of the oldest forms of irrigation and water management system practice in Majuli. Dongs channel the water from water bodies into agricultural lands.

While constructing a Dong two important aspects are –

Source of Dong: The Dong should be located at a higher elevation compared to the surrounding areas where the water will be drained. This elevation difference allows gravity to facilitate the flow of water from the dong to the lower-lying regions. By having the Dong at a higher position, water can naturally move downward, following the slope of the land.

Check Dam: During the winter season, when the river water decreases or disappears in the buffer zone of the foothill belt, it is necessary to construct a check dam. This check dam should be built just before the water reaches the highly porous buffer zone. The purpose of the check dam is to prevent the water from seeping into the porous soil too early, ensuring a consistent flow of water downstream. The check dam acts as a barrier, temporarily storing the water and allowing it to gradually percolate into the soil, maintaining water availability in the canal system.

The Dong are classified into 4 types based on their size,

1. *Ghai Dong* (Biggest),
2. *Pahi Dong* (Sub Canal),
3. *Sakha Dong* (Branch Dong) and
4. *Pani rech* (outlet).

The diverted water is stored in the Dongs and people directly lift water for irrigation. A tool called “lahoni” is used to lift the water from Dongs. People used their indigenous knowledge to maintain the water flow in Dongs. Dongs are common in Majuli and people still use this method for irrigation. It is reported by the respondents that because of population pressure and the degradation of water bodies, the Dong is gradually becoming non-functional.

b) *Khal*: *Khal*'s are of very small pond; these are both permanent and temporary. *Khal* is dug near the agricultural sites during the flood and rainy season and water was stored in these *Khals*. People use manpower or pumps to lift the water and use it for agriculture. Sometimes water diverted by Dongs is also again directed to *Khal* and stored for irrigation. *Khals* are deep and small in comparison to Dongs.

c) *Hola* and *Jan*: *Hola* and *Jan* are waterlogged areas. These are seasonal water bodies covered by static water, during summer it is connected to rivers and wetlands. During winter *Hola* and “*Jan*” are dried up and water remains only in the deeper part of it. The basic difference between “*Hoal*” and “*Jan*” is that *Hola*'s are wider and shorter while *Jan*'s are narrow. These two water bodies are very important for irrigation. These water bodies regulate water to the agricultural fields.

The above water bodies are not only used traditionally for irrigation purposes; these are also common fishing areas. Like other water bodies, these parts of wetlands constitute good habitats for small fish species. Villagers collect wild edible plants, grass, and snails from these water bodies. These

water bodies are natural as well as artificial extensions of wetlands. The disappearance of these water bodies is related to the phenomenon of wetland degradation.

The disappearing of these water bodies has a huge impact on the livelihood of people. Traditional water resource management systems worldwide are confronting significant challenges due to the impact of evolving socio-economic and political conditions (Baker, 1999; Roth, 2014). These challenges have resulted in the need for adaptation and resilience in managing water resources in traditional systems.

Use of Wetland Plants in Traditional Healing System

Some plant extract from the wetland and nearby the wetland area is used for healing. In the traditional healing system, the wetland plant has a significant place. Over time the practices have vanished from our society for many reasons like unavailability of the plants, lack of proper documentation or not being transmitted to the new generation, and of course the advancement of medical facilities. It is found that some aquatic plant available in Majuli is used to treat various diseases. A significant portion of the plant species in Majuli is under human control. The flora of Majuli is utilized for various purposes by its residents. These include using 102 plant species for medicinal purposes, particularly in treating diseases related to childbirth, mother care, and birth control. Additionally, five plant species are utilized for constructing houses, 11 plant species are used in handloom weaving, 16 plant species play a role in sacred functions, and 15 plant species are used in the production of the local liquor called "*Laupani*" by the Missing and Deuri tribes. During the *Bahag Bihu* festival, tendered portions of 101 plant species are used as curry on the second day, while 14 plant species are incorporated into different activities during Bihu and other festivals (Hazarika, P., Pandey, B.K. and Tripathi, Y.C. 2010).

Fifty-two species of anti-diabetes plants belonging to 33 angiosperm families have been identified in one of the studied wetlands (Hazarika, P., Pandey, B. K., & Tripathi, Y. C.2020). The inhabitants of Majuli, particularly the Mishng and Deori tribal communities, have developed their traditional healthcare systems through trial and error methods. However, this traditional knowledge requires scientific scrutiny to fully understand its potential benefits for humankind. The habitat and environment in which these folk remedies have evolved are rapidly disappearing due to modernization. The assumption made during the study was that the remoteness and geographical isolation of Majuli Island may have provided ample opportunities to discover novel traditional knowledge regarding the ant-diabetic use of plant species.

Festival Celebration

Wetlands occupy a central role in the cultural fabric of the Assamese people in Assam, intertwining with both their festivals and traditional marriage ceremonies. Culturally significant festivals are often celebrated near or in connection with wetlands, where rituals and gatherings take place, highlighting the deep relationship between nature and cultural practices. However, it is in the realm of marriage rituals that wetlands assume a particularly vital role. In the traditional Assamese marriage ceremony, wetlands are pivotal, serving as a sacred source for ceremonial baths. Both the bride and groom partake in this ritual, using water collected from the wetlands. This practice carries profound cultural and symbolic significance, likely representing purity, fertility, and a spiritual connection with the natural environment. Beyond cultural traditions, the integration of wetlands into these rituals serves as a poignant reminder of the ecological importance of preserving these natural ecosystems. In the marriage rituals of the Assamese community, wetlands not only play a role in cultural heritage preservation but also emphasize the inseparable link between human traditions and the environment.

Myth, Spirituality Wetlands

Wetlands and water have nurtured human creativity since the earliest time, producing a vast array of songs, music, dance, art, literature, storytelling, and rituals. The early reliance of most people

on wetland resources resulted in a rich oral history of songs, stories, and dances that were collective displays of respect and indeed, helped to the preservation of traditional management practices. Over the years most people physically removed or have to move from the wetlands in their day-to-day life, yet wetlands remain as a source of inspiration, sometimes in different ways (Ramsar fact sheet, www.ramsar.org/).

One of the most famous mythical stories related to the wetlands of Assam is the legend of the Hargila or the Greater Adjutant Stork. According to the myth, the Hargila was once a beautiful princess who was cursed by a powerful sage and transformed into a stork. The Hargila is now considered a sacred bird in Assam, and it is believed that seeing one brings good luck and prosperity. Another well-known mythical story related to the wetlands of Assam is the legend of Umananda Island. The island was created by Lord Shiva as a sanctuary for his consort, Parvati. The island is located in the middle of the Brahmaputra River and is considered a holy site by many Hindus.

There is also folklore related to the wetlands of Kaziranga National Park, which is home to the famous one-horned rhinoceros. According to this myth, the rhinoceros was created by the god Brahma as a symbol of strength and power. The rhinoceros is now a critically endangered species, and efforts are being made to protect its habitat in Kaziranga National Park.

Another myth related to the wetlands of Assam is the presence of a creature “Baak”. The “baak” is a creature frequently found in Assamese folktales that is believed to live near water bodies and often troubles fishermen. It is known for its malevolent nature and love for fish. According to folklore, “baaks” can be murderous, drowning their victims and then assuming their form or possessing them. They may also live with their victims' families and attempt to harm them. However, not all “baaks” are described as being violent; some simply play tricks on their victims, especially children.

Wetlands have a very significant place in the indigenous belief system of the local communities. Wetlands are not merely a source of water to them. It is found that wetlands are regarded as a very sacred place. Every fisherman has their method of worshiping before fishing in the wetland areas. It is believed that every wetland has a “Dagoriya” (mythical owner, an angel) and by satisfying him they can get more fish.

Wetlands have a special place in local folk songs. These songs describe the beauty of the wetland's natural landscape, birds, and animals. Even in modern times, there are many Assamese songs where the names of “Doria Beel” are mentioned. Bihu as mentioned earlier is an occasion for dancing and singing there are thousands of songs in Assamese and tribal languages describing the beauty of the water bodies.

Some cultural festivals and religious rituals related to water bodies. Local people utilized the water bodies and the bank of the wetlands for performing those practices. As reported by the respondents the cultural and religious uses of the wetlands are declining. Bihu is the main cultural festival of Assam. People use the nearby wetlands to perform some cultural practices during the celebration of Bihu. Hundreds of people gather around the wetlands on the occasion of “Goru Bihu” and celebrate the event. People used to take baths along with their cattle and perform some traditional way of worshiping the cattle. People also exchange plates of vegetables with each other which they bring to the site for performing the event. But as the wetlands are degrading there is no more space left out for performing this event. People now perform this cultural practice in their houses using pipe water or tub wells.

Wetlands provide a range of valuable services, including spiritual enrichment, cognitive development, reflection, recreation, social interaction, and aesthetic enjoyment. According to Versehuuren (2007), wetlands offer spiritual benefits evidenced by various indicators. These include the presence of sacred sites near wetlands, the role of wetlands in religious ceremonies and sacred texts, the presence of oral traditions, songs, chants, and folk tales related to wetlands, the totemic values of wetland species, and the religious use of wetland flora and fauna.

Rutte and Bhagwat (2006) discussed that many wetlands all over the world are preserved by indigenous people because of the presence of some trees and groves which they take as sacred. In some places, specific wetland fowl and animal is taken as very sacred. The local communities

established rules that killing these animals or cutting off some groves is strictly prohibited and a punishable act.

Most indigenous people tend to relate themselves to natural elements and species. They regard the wetlands as alive and venerate them through reciprocal relationships. Durkheim (1912) in his work "Elementary Forms of Religious Life" for the first time shows the relationship between natural objects and religious belief of human society. Durkheim in his work used the term "Totem". In general, totemism means a concept associated with some inanimate or animate objects and those objects are considered as their descendants or sacred things. Durkheim linked totems to religion, viewing them as sacred symbols for specific tribes. These emblems, often animals or plants, adorned weapons and prayer halls in the feudal age. In primitive societies, such as Australian tribes, totemic symbols marked bodies during initiation. Durkheim emphasized totems as collective representations for clans.

Several mainstream faiths Hinduism, Islam, Christianity, Jainism, and Buddhism likely to view the wetlands as a godly creation (Palmer 2003). These religious associations of wetlands bring spiritual values to the wetlands. It is observed that the availability of isolated land near the wetlands constitutes a suitable place for the establishment of religious temples and other religious institutions.

Respondents have conveyed that within the Mishing community, certain religious rituals are exclusively conducted in wetland areas, highlighting the integral connection between their spiritual practices and the wetland environment. Two such rituals, namely "*Gharar Dangoriya Hokam*" and "*Buha Dangoriya Hokam*," are particularly significant. During these ceremonies, the local ritual leader or headmen, accompanied by a group of 5-8 individuals, seek out a specific location within the wetland. Under the shelter of a designated Banyan Tree called "*ahot gos*," they perform animal sacrifices. The belief underlying these rituals is that such sacrifices contribute to good health and foster the overall development of the Mishing community.

Despite the cultural importance of these rituals, there is a concerning trend reported by Mishing community respondents. The unavailability of suitable wetland areas and spaces to perform these rituals has led many villages to discontinue these practices. This shift signifies a tangible impact on traditional cultural and religious practices within the Mishing community, as the loss of wetland spaces hampers the ability to carry out rituals integral to their spiritual beliefs. The diminishing accessibility to wetlands not only poses a challenge to cultural heritage but also raises questions about the broader implications for the spiritual and communal well-being of the Mishing people.

Burial Ground

Bank of water bodies are regarded as the most auspicious place to be cremated. Ghats like Varanasi and Manikarnik are regarded as the holiest places for Hindus to be cremated. Everyone can't bring the deceased to Ganga or Manikarnik. Hindus regard water sources as a symbol of purity and prefer cremation. It is found that most of the edges of the wetland are used as a burial ground in Majuli. The local community used the edge of the wetlands as a graveyard. The availability of wood and burial groves, unused land, and less human inhabitation are the major causes behind turning the edges of the wetland into the graveyard. The presence of the graveyard makes the wetlands a place of various myths, ghost stories, and various superstitions.

Aesthetic and Recreational Values of the Wetlands

Natural scenes of water bodies have been praised and admired for thousands of years. However, wetlands are misunderstood as bad and cause terrible diseases to humans. The beauty of wetlands, such as marshes and swamps, is primarily appreciated through our senses. Wetlands offer a rich sensory experience that can be captured by artists, musicians, and writers throughout history. As we spend more time in wetlands and develop a greater sensitivity to their stimuli, we can appreciate them even more deeply. The sights, sounds, smells, textures, and tastes of wetlands all contribute to their aesthetic value.

Claude Monet (1840 -1926) is widely regarded as the master of wetland impressionism. He portrayed the beauty of pond life through his series of "Water Lilies" paintings and also captured

numerous river scenes in his "Argenteuil" series. In addition, Monet's art depicts the urbanized wetlands as seen in his painting, "Palazzo da Mula, Venice." Monet's exceptional ability to capture the essence of wetlands through his artistic expressions has made him a celebrated artist even today.

The aesthetic preferences and values of the wetlands are influenced by the bio-evolutionary preference theory. It explains the value of the wetlands from a survival perspective. Human beings are attached to the environment that is most suitable for their survival. Individuals choose a landscape that satisfies their immediate needs and can promote well-being. Aesthetic preference for the environment led people to change their environment for better experiences and benefits. The aesthetic values of the wetlands are an important element in recreational appeal; it opens space for ecotourism and recreation in the wetlands.

Recreational activities are non-consumptive and used for public pleasure. The use of wetlands for swimming, driving, picnic areas, jogging, and walking are some of the pleasurable activities in wetland areas. However, over and unsustainable use of the wetlands for recreational activities can bring negative to the wetland ecosystem.

Nature-based recreation is one of the growing industries. In the United States, 98 million people each year, spend a total of \$59.5 billion in recreational activities in wetland areas doing an activity such as hunting, fishing, and bird watching taking pictures of wildlife. At least 100 million Americans visit coastal areas each year. 17 million Americans depend on recreational fishing in coastal wetlands for at least \$18 billion in economic activity each year (<http://www.epa.gov/watertrain>).

Bird watching is among the world's fastest-growing tourism. Majuli was declared an Important Bird Area (IBA) by the Bombay Natural History Society and Birdlife International back in 2004 (Islam and Rahmani, 2004). A site known or thought to hold, regularly, 20,000 water birds or greater than 10,000 pairs of sea birds of one or more species are identified for IBA. Although no systematic census of water birds has been conducted in Majuli, likely, the total population of waterfowl in the all wetlands of Majuli and adjoining Brahmaputra River could be much above 20,000, thus qualifies for IBA criteria. Majuli has the potential to develop as a birding hotspot in Assam.

It is found that the tourism department of Assam has constructed a bird-watching tower in the studied wetlands, providing visitors with an elevated vantage point to observe the diverse bird species. Additionally, a children's park has been established in the Jorbeel wetland, catering to the recreational needs of families and fostering a connection between children and the natural environment.

The local people are seen to utilize the wetland areas for a variety of recreational activities. These activities include utilizing the wetlands as picnic areas, engaging in swimming and boating, bird watching, as well as participating in jogging, walking, and exercise. The diverse range of recreational activities highlights the multifunctional nature of wetlands, serving as spaces for both leisure and physical activities. The participation of local people in these recreational pursuits demonstrates the value they place on the wetland areas as spaces for relaxation, enjoyment, and connection with nature.

Conclusion

The wetlands foster unique social relations, as fishing, grazing, and cropping communities coexist within these spaces. Wetlands in Majuli, the wetlands hold spiritual importance, being integral to traditional belief systems and serving as sacred sites. Wetlands and water have nurtured human creativity since the earliest time, producing a vast array of songs, music, dance, art, literature, storytelling, and rituals. The early reliance of most people on wetland resources resulted in a rich oral history of songs, stories, and dances that were collective displays of respect and indeed, helped to the preservation of traditional management practices. Many cultural and religious practices, totemic beliefs associate with the wetlands are found from the study.

The wetlands also influence the settlement pattern; it is observed that people started moving toward the wetlands in Majuli because of population pressure. It is found from the fieldwork that two new villages have been established near the studied wetland. People have started settling on the edge of the wetlands.

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