Economic Significance Of The Wetlands In The Malda District: Case Study Saili Beel In English Bazar Block, Kalma Beel In Chanchal Block-I And Bogole Beel In Chanchal Block-II Of Malda District In West Bengal

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ABSTRACT:
Wetlands contribute to the national and local economies by producing resources and providing other natural benefits of the wetland. In West Bengal, the estimated benefit from natural wetlands cultivation is Rs. 3.59 lakh per year. The cost of irrigation from wetlands are cheaper for upland paddy cultivation as compared to irrigation from wetlands. Wetlands provide resources for local people such as food, water, raw materials for building in the village and raw materials for cottage handicrafts. Moreover, in West Bengal, wetlands are used for multiple purposes and have economic significant role in the livelihoods of the local people. It is also widely recognized that wetland have a significant influence on hydrological cycle. Wetland has therefore become important elements in water management policy at nation wetlands reduce floods, recharge groundwater augment low flows. Wetlands are important sources of aquatic biodiversity. This research paper is an attempt to highlight through observation and case study saili beel in English bazar block, kalma beel in Chanchal block-I and Bogole beel in Chanchal block-II of Malda district in West Bengal. The present study is focused on economic significance of different wetlands of the Malda district in West Bengal, India.

Key Words: *Wetlands, cultivation, irrigation, significant, hydrological, management policy and biodiversity*

1.1 INTRODUCTION

The term 'wetlands' refer to lowlands covered with surface and sometime temporary or erratic water bodies. They are mentioned to by such names as marshes, swamps, bogs, wet meadows, potholes, sloughs, and river overflow lands. Shallow lakes and ponds, usually with growing vegetation as conspicuous features are included in the wetlands, but the permanent water of streams, reservoirs and deep lakes are not included. Wetlands are defined as lands transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface or the land is cover by shallow water (Mitsch & Gosselink 1986). Wetlands are one of the most important ecosystems on the earth. It was the swampy environment of the carboniferous period which produced and preserved many fossils fuel of economic importance. Sometimes wetlands are described as "the kidneys of the landscape" due to their functions which they perform in the hydrological and chemical cycle as the downstream section receives wastes from both natural and human sources (De & Jana, 1997). 'Wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface' (Cowardin, December 1979). Wetlands vary widely because of and local differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors, including human disturbance. The most suitable definition of Wetlands as defined by Ramsar, "wetland are low areas, which are seasonally or permanently flooded with water, whether natural or artificial, static or flowing, fresh brackish or salt, including marine water, the depth of which, at low tides not exceeding six meters". Hence, wetlands or beel is a lake like wetland with static water as different to moving water in rivers and cannels are called khhaals in Bengali term. Bhattacharya, Mukherjee and Garg (2000) identified wetlands in West Bengal, it is difficult to identify the wetlands according to their uses. Based on the ecological condition and pressure from economic activities, wetlands in different areas are used for different purposes. Therefore, it is difficult to identify wetlands, which are used as Multiple Use Systems (Mukherjee, 2008). The dynamics of wetlands are continually changing and function of ecological and environmental factors. In the fact, wetlands change its shape, size and water bodies chemical characteristics depending on different components with including anthropogenic, climatic and ground water levels etc.
Malda district is a rich of full rivers and water bodies in the west Bengal. The total land under wetlands is 25,162 hectare which is 6.74% of the total geographical area of the Malda district. In this contest, the total area under wetlands of West Bengal, it is only 2.2%. In the Malda district, there are 4939 wetlands out of which 502 are large (more than 2.25 hectares) and 4437 are small (less than 2.25 hectares), out of 502 large wetlands, 382 are naturally and the rest are man-made (national Wetlands Allas, West Bengal).

1.2 WETLANDS IMPORTANC FOR ECONOMIC VALUES:
The wetland's functions for economic and biodiversity, Wetlands of the Malda district are supported the numerous goods and services, such as, fishing, agricultural activities, recreation activities, water for irrigation, sediment retention, prevention of soil erosion, storm and flood protection, vegetation and crop cultivation, fungi and algae production and life- supporting to a wide variety of flora and fauna. There is a huge potential of development in and around the wetlands of the Malda district. The commercialization of crop cultivation, transportation, medicinal and ornamental plants can generate millions of Rupees. An investigation into direct use values of the wetland showed dependence on fish, agricultural products, livestock farming, fuel wood and water etc. Three most important products of the Reek wetland are water, fish and agricultural produce along with supporting a rich bio-diversity and other auxiliary cottage industries. The main goal of any economic valuation study is to quantify present and future economic benefits of wetland resources and services. Value is defined as the level of importance placed on the environment compared to other market goods. The economic value of any good or service is generally measured in terms of what we are willing to pay for the commodity less what it costs to supply.

1.3 Major Wetlands of the Malda district:
The low-lying water bodies are generally called Beels. Beels are inland wetlands. Beels is synonymous with wetlands, Doabs, Jalkars etc. The Most of the Beels of the Malda are situated in English bazer, old Malda Chanchal-I, Chanchal-II blocks. Malda district is enclosed with beels more than 30% area (3733 sq.km). So, Malda is also called the 'Lake District' of West Bengal.

Major Beels: Kalma, Bogole, Kapargella, Khurial, Kankardaha, Gorutola, Mayamari and Chandamari beels, Bara Sagardighi, Bhatiar, Tangon, Gour and Jatradanga beel, etc.
Natural crops: Makhna, Paniphal, Dhap, Shalok etc.
Major fishes: Kai, Singi, Magur, Saul, Tengra, Puti, Gati, Garai, chingri, Khalisha (local name) and raining seasons fishes like Rui, Katla, Mrigal, Boail etc.
Birds: Heron, Tufted Pochard, Adjutant stork, Purple Moorhen, common Teal

Research scope:
The planners and administrations cannot feel that wetlands of Malda district are occupied of natural assets which their economic significance, diversity of plants, animals' resources, livelihood support values and their region wise ecological of the human societies. There are sufficient resources of the research study with the aspect of the environmental. Natural wetlands are common property of the society and destruction, misuse it which the natural resources amount to violation of environmental laws. The wetlands of the Malda district are natural property but these natural are affected by the anthropogenic factors. These natural wetlands should be managed through proper challenge G.I.S. techniques and it should be done Flood Zonation mapping, Inventory and monitoring of irrigation and crops pattern, water quality analysis and modelling, mapping changes in the rivers course.

Literature Review:
Das et al. (2002) in their research study has estimated the economic value of ten wetlands in the Gangetic flood plain in Bardhhaman district of West Bengal. The area of the wetlands varies from 10 ha to 275 ha with an average area of 66 ha. The economic benefit from fisheries cultivation varies from Rs. 500 to Rs. 16,000 per ha per year; average irrigation benefit is Rs. 3.543 with a maximum of Rs. 16,000; average benefit of using wetland for jute retting is Rs. 200 per ha per year with a maximum of Rs. 625 per ha per year. Average benefit from fisheries cultivation varies from Rs. 2,484 per household, irrigation benefit – Rs. 1,105 per acre and jute retting Rs. 483 per household per year.

Jahanara Khatun1 and A.K. M. Anwaruzzaman (2012), in their research study, has described the serious threat to wetland bio-diversity in the case study in Malda district wetlands. They also highlighted that the newly introduced aquatic plant named Gorgon has been threatening it unto death. There have been efforts to make an assessment of threats also making effort in the direction of saving this natural wealth.
Anwarul Haque (2016), in his research study, has highlighted that economic valuation of wetland biodiversity in the rural and urban wetlands of West Bengal. He also explained the impact of socio-economic and other determinants of households on their WTP for the proposed conservation scheme for East Kolkata and Kachan wetland.
Sanjay Dutta (2015), in his research article, "Development of tourism industry and wetland management: an attempted to relate nature, case study block Englishbazar, District Malda,West Bengal, India", has discussed the development of tourism industry and Wetland management in the Malda district of west Bengal. He also highlighted that it is a call of time to make a proper tourism plan along district wetlands specially taking Chatra beel of Englishbazar block as a focal area of study.
Verma, Akshi and Nair (2010), in their research paper, they evaluated fully the wetland benefits/ resources for appropriate allocation of wetland use in case of Bhoj wetland in India. He also helped the planners and the policy makers, to develop a socially acceptable, environmentally sound and economically feasible strategy for wetland management.

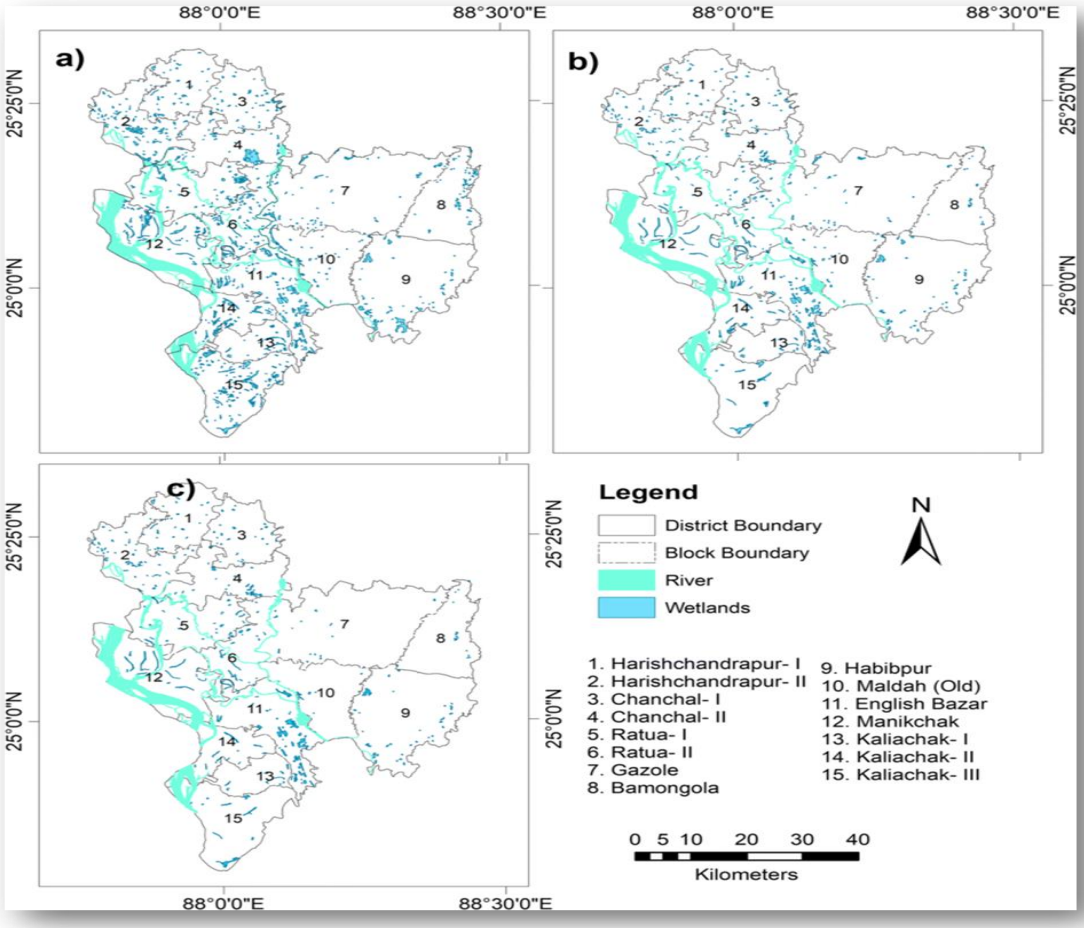
Objectives of Research Study:
1. To identify the significance of wetland
2.To find out the importance of wetland for rural poor people
3.To highlight ecological role of wetland
4. To search out the impact of wetlands

Outline the research areas:
Study Area:
Chanchal-I and Chanchal-II Blocks are situated in the northern part of Malda District. The study areas are situated between 250 23́ 00̋ N to 2502315̋ N latitude and 870 59́ 15̋ E to 880 00́ 30̋ East longitude. The total population and area of the study area are 339345 persons and 367.30sq.km respectively. The case study of the Kalma Beel in Chanchal-I and Bogole Beel in Chanchal-II Blocks and Siali Wetland is situsted in the English Bazer Block

Kalma Beel: Kalma Beel is situated in Chanchal-I block of Malda district. It is surrounded by the villages in the north, Gourakpur in the south, Ranikamat in the east and Uttar Rasulpur in the west. The total area of Kalma Beel is 29.88 hectares and depth are 1-3 metres. About 175 persons are engaged for fishing, Makhna cultivation, Agricultural and the Kalmi, Sushni (Marsilea Minuta) etc are also collected from this beel for vegetable purpose by the local women. The most of the people are belonging to SC/OBC-A/OBC-B and their socio-economic conditions are not well. So, Kalma Beel plays an important role in the agricultural and economic development of the local people. 50 households have been surveyed in order to know, the utilization of Siali wetland, by surrounding villagers as well as sustaining their socio-economy.

Bogole Beel: Bogole beel is located in Chanchal -II Block in Malda district. It is bounded by laxmipur in the north, Dahuka village in the south, Makarsui village in the east and Paraninagar village in the west. The total area of this is 7 hectors and depth are 1-3 metres. Makhana cultivation is main source of income in this beel. Near about total number of 200 people are involved for fishing, Makhna cultivation and other activities. 50 households have been surveyed in order to know, the utilization of Siali wetland, by surrounding villagers as well as sustaining their socio-economy.

Siali Wetland: Siali Wetland is situsted in the English Bazer Block.It is enclosed by Jagannathpur, Fatepur, Bhaluka and Degun Talgachi, Par bhaluka and Kariali. 50 households have been surveyed in order to know, the utilization of Siali wetland, by surrounding villagers as well as sustaining their socio-economy.



Source: google map, in the Malda District of administration

METHODOLOGY

My research study is based on bot primary data and secondary.

Primary data; The primary data has been collected from field survey through proper questionaries, interviews of the respondents and group discussions.

Secondary data; The main sources of the secondary data are District fishery & Agricultural office and block offices and various types of journals, articles, books newspaper, internets etc which are related of my research study paper.

SAMPLE SIZE: The three wet land survey, i.e. Siali wetland, Bogole wetland and Kalma wetland, where 50 households in Siali wetland,50 household in kalma wetland and 50 household in Bogoli wetland. The total household is 150 household are taken in the field survey (total Six village are the sample)

DATA ANALYSIS AND DISCUSS

Table 1 Utilization of Kalma Beel wetland for irrigation and cultivation

Village type	Cultivator (household)	Wetland utilized	(%)	Wetland unutilized	(%)
Bed village	35	18	51.42	17	48.57
Belt village	15	10	66.66	5	33.33

Source: In the Field Survey (2019-20)

Table .2 Utilization of Kalma Beel wetland for fishing

Village type	Cultivator (household)	Wetland utilized	(%)	Wetland unutilized	(%)
Bed village	18	10	55.55	8	44.44
Belt village	5	4	80	01	20

Source: In the Field Survey (2019-20)

Table 3. .Utilization of Kalma Beel wetland for cultivation and fishing together

Village type	Cultivator + Fishing household	Wetland utilized	%	Wetland unutilized	%
Bed village	17	14	82.35	3	17.65
Belt village	5	5	100	0	

Source: In the Field Survey (2019-2020)

Table 4. Utilization of Kalma Beel wetland for makhana and food crop cultivation

Village type	Cultivator (household)	Wetland utilized	Makhana cultivating household	%	Food crop cultivating household	%
Bed village	25	18	13	52	7	28
Belt village	12	7	5	41.66	0	0

Source: In the Field Survey (2019-2020)

Kalma Beel wetland:

In the present study, above mentioned table-1 shows that, out of the total number of surveyed households, bed village accounts 25 number households (51.42%) and belt village accounts only 15 households (66.66%), who are engaged in cultivation, including both the agricultural labourers as well as cultivators. Out of these cultivator households in bed villages, 18 numbers of households (55.55%) utilize the wetland water for irrigating fields and 8 (44.44%) do not utilize this particular water body (20%) in table-2. In the table-3, Utilization of Kalma Beel wetland for cultivation and fishing together, in the bed village, the total number of 17 households, only 14 households are used both for cultivation and fishing together (82.35%) and 3 households do not use wetland (17.65%) and belt village 100% households are used wetland for cultivation and fishing together. In table-4 shows that the Utilization of Kalma Beel wetland for makhana and food crop cultivation that the bed village 52% and 28% households are both used wetland and belt village, there are total 12 households out of the 7 households only under makhna cultivation (41.66%).

Table .5 Utilization Bogole Beel of wetland for irrigation and cultivation

Village type	Cultivator (household)	Wetland utilized	(%)	Wetland unutilized	(%)
Bed village	35	20	57.14	15	42.86
Belt village	15	10	66.66	5	33.33

Source: In the Field Survey (2019-2020)

Table. 6. Utilization of Bogole Beel wetland for fishing

Village type	Cultivator (household)	Wetland utilized	(%)	Wetland unutilized	(%)
Bed village	18	9	50	9	50
Belt village	5	4	80	01	20

Source: In the Field Survey (2019-2020)

***Table-7.* Utilization of Bogole Beel wetland for cultivation and fishing together**

Village type	Cultivator + Fishing household	Wetland utilized	%	Wetland unutilized	%
Bed village	17	13	76.47	4	23.53
Belt village	7	5	71.43	2	28.57

Source: In the Field Survey (2019-2020)

Table 8. Utilization Bogole Beel of wetland for makhana and food crop cultivation

Village type	Cultivator (household)	Wetland utilized	Makhana cultivating household	%	Food crop cultivating household	%
Bed village	27	18	13	72.22	5	27.78
Belt village	12	7	5	71.43	2	28.57

Source: In the Field Survey (2019-2020)

Data analysis and discuss of the Utilization Bogole Beel of wetland for makhana and food crop and fishing cultivation:

In the table -5 shows that the total 35 households in the bed village, 20 households are used wetlands (57,14%) and 15 households do not used wetlands for both irrigation and cultivation. In the Table-6, Utilization of Bogole Beel wetland for fishing, in bed village the total number of 18 household and only 50% wet lands are used for fishing cultivation and 50% households do not used the wetlands for fishing. The total number bel village is 5 , only 4 households are wetland used (80%) and One household do not used wetland (20%), in the table 7, it shows that the Utilization of Bogole Beel wetland for cultivation and fishing together, in the bed village the total numbers of households are 17, only 13 households are used both the wetland for cultivation and fishing together76.47%) and do not used wetlands are 4 households

(23.53%). In the table-8, it shows that the Utilization Bogole Beel of wetland for makhana and food crop cultivation, in the bed village the total numbers of households are 27 , only 18 household are used the both wetland for makhana and food crop cultivation and 13 house only Makhana cultivating (72.22%) and 5 households are used Food crop cultivating (27.78%). In the belt village, the total numbers of households are 12, only 7households are used wetland for makhana and food crop cultivation and 5 households are used only Makhana cultivating (71.43%) and only 2 households are used for Food crop cultivating (28.57%)

Table 9. Utilization of Siali wetland for irrigation and cultivation

Village type	Cultivator (household)	Wetland utilized	(%)	Wetland unutilized	(%)
Bed village	32	18	56.25	14	43.75
Belt village	18	10	55.55	8	44.44

Source: In the Field Survey (2019-2020)

Table 10. Utilization of Siali wetland for fishing

Village type	Cultivator (household)	Wetland utilized	(%)	Wetland unutilized	(%)
Bed village	17	9	52.94	8	47.05
Belt village	5	4	80	01	20

Source: In the Field Survey (2019-2020)

Table11.Utilization of Siali wetland for cultivation and fishing together

Village type	Cultivator + Fishing household	Wetland utilized	%	Wetland unutilized	%
Bed village	17	14	82.35	3	17.65
Belt village	5	5	100	0	0

Source: In the Field Survey (2019-2020)

Table 12. Utilization Siali of wetland for makhana and food crop cultivation

Village type	Cultivator (household)	Wetland utilized	Makhana cultivating household	%	Food crop cultivating household	%
Bed village	25	18	13	72.22	5	27.78
Belt village	12	7	5	71.43	2	28.57

Source: In the Field Survey (2019-2020)

Data analysis and discusses for the Utilization of Siali wetland for irrigation, crop cultivation, fishing and Makhna cultivation:

In the above table -9, it shows that Utilization of Siali wetland for irrigation and cultivation, in the bed village the total numbers of 32 household, only 18 households are wetlands for irrigation and cultivation (56.25%) and only 14 households are not used wetland for irrigation and cultivation (46.75%) and belt village the total number of households are 12, only 10 households are used wetlands for irrigation and cultivation (55.555) and 8 households are not used wetland for irrigation and cultivation (44.44%).

In the Table-10, it shows that the Utilization of Siali wetland for fishing, in bed village, the total numbers of households 17, but 9 households are wetland for fishing (52.94%) and 8 households are not used wetland (47.05%). In the Belt village, the total numbers of 5 households, only 4 households are used the wetland for fishing cultivation (80%) and one household do not use wetland for fishing cultivation (20%). In the table-11, it shows that the utilization of Siali wetland for cultivation and fishing together, in bed village, the total numbers of households 17, but 14 households are wetland for cultivation and fishing (82.35%) but 3 households are not used wetland for cultivation and fishing (17.65%). In the table-12, it shows that the utilization of Siali wetland for makhana and food crop cultivation, in bed village, the total numbers of households 25, but 18 households are wetland for makhana and food crops cultivation and 13 households are wetland for makhana cultivation (72.22%) and 5 households are used wetland for food crop cultivation (27.78%). In the belt village, the total numbers of households 12, but 7 households are wetland for makhana and food crops cultivation and only 5 households are wetland for makhana cultivation (71.43 %) and 2 households are used wetland for food crop cultivation (28.57%).

Table-13 Calculation for income for cultivation of per bigha of Makhna cultivation

Expenditure items	Quantity requires	Expenditure	
		Rate	Amounts
1.Field preparation	One bigha	Rs.15,000	Rs.15,000
2 Seeding/plantation	50kg	Rs.90	Rs.4,500
3Labour	10-man days	Rs.300	Rs.3,000
4.Insecticides and pesticides			Rs 2000
Total Expenditure			Rs 24,500
Producttion (Income)	6 quintals	Rs. 6*7,500 =	Rs.45,000
5. Misc Cost/deprecation cost		RS. 4,000	
Net Profit	Net Profit =Production cost – Expenditure = (45,000-3,000)- 24,500 = 42,000-24,500 = 17,500		
Cost Benefit Ratio	= 27,500/17,500=1.57		

Sources: Calculation by Author in the field survey interview the respondents

Table-14: Economic valuation of Siali wetland for fishing

Sources of benefits and cost for wetland fishing	Wetland fishing (cultivation+catch)
Total production + Total catch (kg/annum)	7500kg
Market price (Rs./kg)	Rs.200
Total benefit (Rs./annum)	15,00,000.00
Lease (Rs./annum)	1,50,000.00
Estimated net benefit from wetland fishing (Rs./annum)	13,50.000.00
Sources of benefits and cost for wetland product gathering	Wetland product gathering
Total income (Rs./annum/household)	9,000.00
No. of household gather wetland product	4
Total estimated benefit (Rs./annum) from product gathering	36,000.00
Total estimated benefit from wetland (Rs. /annum)	13,86.000.00

Sources: Calculation by Author in the field survey interview the respondents

In the table-13, the irrespective of bed and belt villages for cultivation of per bigha of Makhna cultivation to get the estimated total cost of the makhana is Rs.27,500 and net benefit of Rs. 17,500. The cost benefit Ratio is 1.57 which is greater than one i.e., the economic significant of the makhana cultivation is positive

In the table 14, the irrespective of bed and belt villages get the estimated total benefit of Rs. 15,00,000.00 for the total production including total fish catch of 7,500 kg. per annum (Market price Rs. 2.00/kg). The wetland is leased out to the fishermen for Rs. 150,000.00 per annum. Therefore, the net estimated benefit from the wetland fishing including fish catch recorded Rs. 13,50,000.00 per annum. The households, who gather various wetland products including aquatic flora and fauna, get an estimated benefit of Rs. 36,000.00 per annum. Therefore, the total estimated benefit from Siali wetland in the form of wetland cultivation, wetland fishing as well as wetland product collection is recorded Rs. 13,86,000.00 per annum

Problems To Wetlands:

Human activities cause wetland degradation and loss by changing water quality, quantity, and flow rates; increasing pollutant inputs; and changing species composition as a result of disturbance and the introduction of non-native species. Common human activities that cause degradation include the following:

Hydrologic Alterations

The characteristics of a wetland evolve when hydrologic conditions cause the water table to saturate or inundate the soil for a certain period of time each year. Any change in hydrology can significantly alter the soil chemistry and plant and animal communities. Common hydrologic alterations in
wetland areas include:

- .Deposition of fill material for development.
- Drainage for development, farming, and mosquito control.
- Dredging and stream channelization for navigation, development, and flood control.
- Construction of ponds and lakes.
- Diversion of flow to or from wetlands.
- Addition of impervious surfaces in the watershed, thereby increasing water and pollutant runoff into wetlands.

Pollution Inputs:

Although wetlands are capable of absorbing pollutants from the surface water, there is a limit to their capacity to do so. The primary pollutants causing wetland degradation are sediment, fertilizer, human sewage, animal waste, road salts, pesticides, heavy metals, and selenium. Pollutants can
originate from many Sources, including:

- Runoff from urban, agricultural, silvicultural, and mining areas.
- Air pollution from cars, factories, and Power plants.
- Old landfills and dumps that leak toxic substances.
- Marinas, where boats increase turbidity and release pollutants.

Wetland plants are susceptible to degradation if subjected to hydrological changes and pollution inputs. Other activities that can impair wetland vegetation include:

- Grazing by domestic animals.
- Introduction of non-native plants that compete with natives.
- Removal of vegetation for peat mining

The other most important problems to wetlands are:

- Rapid growth of population (population explosion)
- Huge changes of land use pattern
- Agricultural improvement due to green revolution
- Development of communication systems
- Misuse of water from wetland to irrigation or domestic purposes
- Uses of fertilizer and pesticide in agricultural field.
- Over fishing from wetland.
- Over grazing in wetland.

Protection laws and government initiatives

Wetlands conservation in India is indirectly influenced by an array of policy and legislative measures (Parikh & Parikh 1999). Some of the key legislations are given below:

- The Indian Fisheries Act - 1857
- Water (Prevention and Control of Pollution) Act - 1974
- Water (Prevention and Control of Pollution) Act - 1977
- Environmental (Protection) Act - 1986
- National Conservation Strategy and Policy Statement on Environment and Development– 1992
- National Policy and Macro level Action Strategy on Biodiversity-1999

Separately from government regulation, development of better monitoring approaches is needed to increase the knowledge of the physical and biological characteristics of each wetland resources, and to improvement, from this knowledge, a better considerate of wetland dynamics and their controlling processes. In India, being one of the mega diverse nations of the world should struggle to conserve the ecological character of these ecosystems lengthwise with the biodiversity of the flora and fauna associated with these ecosystems.

National wetland strategy

- National wetland strategy should encompass
- Conservation and collaborative management,
- Prevention of loss and restoration and
- Sustainable management. These include:

Conclusions and suggestions

Wetlands are among the most important and yet most threatened ecosystems in India. The main conclusions of this research study are as follows:

1. The livelihood of the community living in and around the wetland of the Malda district benefits from a lot of facilities. For example, farmers and landless laborers use the water bodies for irrigation purposes. Fishermen, cottage industrialists, and local people engaged in animal husbandry and other occupations use water bodies indirectly, whereas facility workers and businessmen use the water bodies in either direct ways or indirect ways.

2.Consequently, in order to find a technologically possible solutions to the several serious problems and challenges in wetland management consequential from top-down approaches to resource conservation, restoration, and sustainability, community-based co-management recognizes that local communities should have direct control over the management, utilization, and benefits of local resources, such as land, water, and fishery resources, to valuate and use them in a sustainable manner.

3.Identifying the importance of protective such Wetlands or waterbodies, the Government of India has taken active planned for wetland conservation programme in 1985-86 and onwards in close collaboration with concerned State Governments. Several steps were taken policy to arrest additional degradation and shrinkage of water bodies due to encroachment, siltation, weed infestation, catchment erosion, surface run-off carrying pesticides and fertilizers from agricultural fields, and discharge of domestic sewage and effluents, which resulted in deterioration of water quality, prolific weed growth, decline in biodiversity and other associated problems.
4.Wetlands are measured the world's most productive sustainable ecosystem the they provide food, requisition carbon, fishing, agriculture, help in flood control and recharge groundwater etc. Wetlands are the areas of land that are either seasonally and permanently covered by water, or nearly saturated by water.

Malda district is rich of economic valuable of wetlands. The local people user group and stakeholders need to know the values of local wetlands and how to protect, preserve and promote their values minimizing encroachment and threat. Approachs this target, the quantity and quality of information of the Malda district wetlands, their economic values be increasingly understood and communicated. Relevant Government of West Bengal agencies should collaborate closely with educational institutions, individual experts as well as NGOs on issues of common interest, therefore, wetlands conservation, aquaculture development and appropriate management are realized. The ideas of up-to-date councils of the local panchayats and Fishermen co-operative are caught and incorporated in future policies and plans target of the wetlands. Besides, economic incentives, measures to strengthen local control over resources and more effective management performs be targeted prioritizing the fishery production of larger wetlands. These essential information needs to be made available to the local Land and Revenue departments as well as Fisheries departments of West Bengal are concerned.

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