

**Wetlands Identified for Conservation
Under
National Wetland Conservation Programme**

A visit was made to Sikkim state from 20th March in connection with identification of some of the wetlands from the state of Sikkim under National Wetland conservation Programme. On 21st March 2006, some of the wetlands were visited from Southern and Western side. On 23rd March, wetlands on Eastern side were seen. Wetland falling in Northern side couldn't be visited because of inclement weather. A multidisciplinary team consisting of members from Land Use and Environment wing of Sikkim Forest Department, GB Pant Institute of HED made visit to various areas. BSI could not join the team because of audit inspection but authorized the team to go ahead with the identification process as they have seen most of the wetlands and promised to be part of finalization meeting to be held on 23rd March and give their appropriate inputs.

A long list of 116 wetlands was given by the State Government for inclusion in the National list. However, most of the wetlands were very small in size ranging from one to five hectares. Because of paucity of time and bad weather, all the wetlands couldn't be visited. Some of the important wetlands were presented along with the photographs with their significance so that they are included in the list on priority, which was then agreed by all. After completing the field visit a wrap up meeting was held in the chamber of PCCF-cum-Secretary in the Forest Department at Gangtok to discuss various options for identifying wetlands under National Wetland Conservation Programme. This meeting was attended by officials from State Forest Department, MoEF, GBPIHED, BSI as mentioned below.

Following wetlands from the state were identified after elaborate discussions for inclusion under National Wetland Conservation Programme with the approval of the members of the Committee and officials from the Government of Sikkim.

1. Khechupalri Wetland

Khechupalri Lake from west Sikkim is located at an altitude of 1700 m amsl. The lake watershed has mixed broad leaved forests and agricultural land with a total area of 12 sq. km, having two villages, which includes 91 ha area specifically as the lake watershed.

The lake is subjected to high influx of tourists. It is also considered sacred and number of pilgrims visit the water body. Significant land use cover change during past four decades has resulted in its deterioration. Heavy sediment loads have been recorded which is posing big threat. It is proposed to go in for catchment area treatment around the lake, clear out encroached areas, propose separate areas for religious purposes to save the main water body, Plant appropriate plants/shrubs/grasses in consultation with communities/experts/managers. A meeting was held with Panchayat president Mr. T. Subba and he promised to consult all religious sects for finding a viable solution to protect this water body. Some of the methods to be employed could be alternative livelihood activities to reduce pressure on this water body for people living in the vicinity of the lake. Lake expansion is also one of the activities suggested. State Government is to send revised management action plan in consultation with local communities, religious sects and state government officials.

2. Tsomgo Wetland.

It is situated on the way to Nathula, 35 km away from Gangtok. The wetland is 22ha in size at an altitude of 3660-3700 meters in an alpine area. It is a lake complex joined by some other water bodies Manju- I and Manju –II. It has also varied biodiversity in terms of flora and fauna. It is subjected to pressures of tourism, road construction and excreta of Yaks used for tourism purposes, adding to its nutrient content. State Government has taken steps to shift the shopping complexes around the lake 2 kms away to stop sewage going to the main water body. This needs to be accelerated. Watershed management, catchment treatment, biodiversity conservation in terms of rehabilitation of endangered and endemic species, hydrological measures, socio economic development, pollution control, ecotourism and local legislation are some of the measures proposed for its conservation. State Government is to send detailed management action plan on these lines to MoEF.

3. Phedang Tso Wetland Complex:

It is situated in Kupup in east District at an altitude of 4400-4600 meters, alpine in character. It is 45 hectare in area and a source of water for Jalkata power station in Bhutan and is surrounded by defence installations and road networks. Threats posed are tourism influx, excess field exercises by army and civilians around the lake, grazing, avalanches and shrinkage in area. It also serves as means of domestic water supply to army and local populations. Numbers of water fowls use the water body for nesting and transit. Management interventions include catchment treatment, conservation of biodiversity, fisheries development, community participation, pollution abatement, alternate livelihood options through socioeconomic upliftment and pollution abatement. State Government is to send management action plan on these lines to Government of India for assistance.

4. Menmoitso and Hangu Complex

These twin wetland habitats are situated in East Sikkim with an area of 42 ha and 58 hectares. It is in the conifer forest mixed with *Ascer*, *Viburnum*, *Prunus*. It is a typical habitat for trout fish. Hangu is a swampy typical Wetland area suitable for variety of Avifauna. In 1962 the Chinese attacked Indian camp here killing more than 200 Indian soldiers. State Government is to send action plan for this complex wetland ecosystem for its conservation as per guidelines of Ministry.

5. Tamzey Wetland Complex

This wetland complex is situated near Chola pass at Tamzey valley at an altitude of 4200-4600 meters having an area of 35 hectares. During past 40 years all matured fir trees have been removed from this area to meet the defense purposes during Chinese aggression. The area is subjected to threats like poor regeneration, heavy population, shrinkage in area, grazing. etc.,. These threats also cause problem of contamination of water supply to Gangtok town. Comprehensive management action plan needs to be developed to conserve this fragile area as per guidelines for assistance.

6. Gurudogmar Wetland Complex.

It is a complex of three glacial water bodies situated in North Sikkim at an altitude of 5180 meters having an area of 40 hectares. It is a sacred water body opened for regulated tourism. It is pristine glacial wetland which is subjected to pressures of encroachment, siltation, thin vegetal cover, unplanned tourism. This wetland could not be visited because of bad weather. This is a typical high altitude wetland which needs management, being a source of fresh water. Management action plan needs to be made for only these activities which are possible in this remote area to save this wetland from biotic pressures.

7. Tembao Wetland Complex

It is situated in North Sikkim at an altitude of 4400 meters having an area of 15 hectares. This wetland burst out in December 1998 because of which it came in to prominence. It has good wildlife and is subjected to threats of shrinkage, catchment degradation, poor vegetal cover, traditional grazing, rapid formation of marine gullies, and excessive use of hot springs. In spite of its smaller size it is a significant Wetland which needs protection. State Government is to combine it with other surrounding Wetlands to make it a complex wetland with little larger area for management. Action plans are to be made accordingly for consideration of expert group on wetlands at National level for its inclusion under National Wetland Conservation programme.

State government officials were particular that size of the wetlands should not be a hindrance for their inclusion under the National programme as hilly States have smaller wetlands but they are rich in biodiversity and their conservation is a boon to state economy. State government was informed that after selection of sites enough justification needs to be given under various components of management action plan as per guidelines of ministry which should include methodologies adapted, modus-operandi and breakup of activities under their subcomponents including norms as per State schedule of rates, already agreed upon. All the members were very specific about changes to be made in the final management action plans to be submitted to ministry for financial assistance with appropriate interventions, which are sustainable so that even after the completion of projects, activities and monitoring could continue without further assistance from Government of India.

Director Wetland division MOEF suggested following broad components to be included in the management action plans while revising the action plans.

- Catchment Area Treatment
- Biodiversity Conservation
- Water Management
- Community Participation
- Alternate livelihood development activities to reduce pressure on Wetlands
- Pollution abatement
- Sustainable fisheries development, wherever applicable
- Education and awareness.

It was agreed that all the action points on various components will be made as per guidelines of the ministry, concentrating on only those activities for implementation which are meaningful for conservation of Wetlands and are locally sustainable and suitable. He further advised that in case of desiltation activities proposed under action plans, it must spell out the possible impacts of such desiltation activities on the wetlands in question and also about the sites where the excavated silt will be dumped. This silt should not be dumped within the catchment area.

State government promised to send viable action plans within a span of two months so that work is initiated in its real earnest in the coming financial year after approval of these action plans by the expert group at the National level.

Director Wetland division from MOEF also urged the State government to constitute a State Steering Committee to look in to details of management action plans, review them from time to time and to monitor ongoing activities to ensure better results. This Committee should be headed by Chief Secretary and should have members from various subject matter departments of State concerned with Wetland Conservation. Committee should also have members from academic/research institutions, stake holders, NGOs, defense personnel and a member from Ministry of Environment and Forests, GOI. The Conservator of Forests could act as a Member Secretary of the committee.

An advisory committee should also be constituted, which should be small having subject specialists as members and which can meet more often to give guidance to

implement and execute management action plans in a desired manner and suggest ameliorative corrective measures from time to time. This is important as bigger forums have no time to join for detailed action, but a small technically competent advisory group can look into intricate issues more academically and logically.

State Government was requested to send detailed management action plans of all the identified wetlands for further necessary action. The Committee also resolved that some multidisciplinary research project could also be initiated by academic/managerial/research institutions to supplement execution of management action plans in more realistic manner. This project could be made on priority areas of research as per ministry's guidelines and sent for consideration to National Sub Committee for research and development on wetlands.

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