Annexure III

CONSERVATION MEASURES TAKEN

Ever since the recognition of Ropar Wetland as a Wetland of National Importance by the Ministry of Environment & Forests, Govt. of India (MEF, GOI), the Punjab State Council for Science & Technology has initiated efforts to take up conservation programmes involving the state executing departments. Proposals for this purpose are formulated and submitted to the MEF, GOI on annual basis. The Ministry has so far provided Rs. 12.70 lac to the State Government for various activities. Activities undertaken include plantation in 10 ha area, water quality monitoring, fencing in strategic locations and public awareness. A TV & VCR has been provided to the district administration for generating public awareness through local Environment Protection Society. The district administration has constructed an Information Centre-cum-Watch Tower for generating mass awareness and promote public participation in the wetland conservation programmes. This information centre comprises of a porch (14'x15'), Hall (32'x15'), Room (16'x10'), Toilet (6'x9') and high rise watch tower. One public awareness programme was also organised at wetland site to infuse grass root level gatherings in our conservation measures.

Annexure IV

CONSERVATION MEASURES PROPOSED BUT NOT YET IMPLEMENTED

Ropar Wetland essentially has tremendous ecological values. But the ecosystem is threatened on many counts, which include excessive siltation as a result of the erosion from the adjoining nude hills. Interference to the avifauna is also a matter of concern. Immediate steps, particularly, afforestation and soil conservation in the highly erosion prone catchment areas in the vicinity of this wetland, fencing of strategic areas and awareness of general public are required to be initiated. The State Govt. has already constructed an Information Centre and Watch Tower for stimulating and sensitising public to understand environment in general and wetlands in particular. This Centre, however, requires to be strengthened with basic facilities like books, blow-ups, binoculars, small telescope, video films etc. Details of the conservation & management and awareness steps alongwith the financial requirements are given hereunder:-

1. Survey and Mapping

A preliminary survey of Ropar Wetland Ecological Zone has been done by the Deptt. of Town and Country Planning, Punjab. However, to undertake long term conservation and management programmes and to protect this wetland it is desirable to conduct detailed survey, including remote sensing survey, and prepare comprehensive maps. Subsequently the steps for its notification may be taken up. A sum of Rs. 11.34 lac is required for undertaking plane table and contour surveys. Work has been started to survey the area.

2. Afforestation and Soil Conservation :

Since this wetland is located right in the lap of badly damaged and absolutely nude erosion prone Shivalik Foothills, thousands of tonnes of silt gets transported into this wetland and further down every year. This excessive siltation is not only reducing the extent of lake but also is transforming the functioning of this ecological system. It has been planned to check silt loading in a phased manner by undertaking plantation and soil conservation work. This work will be initiated first in the vicinity of the wetland. The Deptt. of Forests & Wildlife, Punjab shall take up plantation of indigenous species in 50 ha area. Funds to the tune of Rs. 40.00 lac are required for this purpose. Council is also proposing to take up concrete grid support plantation at strategic locations and arial seeding on inaccessible hills.

3. Fencing and Wildlife Development :

The Deptt. of Wildlife, Govt. of Punjab has proposed to erect chain-link fence to protect certain strategic areas of the wetland. This will help in checking the excessive exploitation of vital wetland resources and prevent encroachments

of the wetland area. Funds to the tune of Rs. 30.00 lac are required for raising fence during the ninth five year plan. Wildlife Deptt. also proposes to provide wooden nests of different shapes.

Recent experiments in some western countries shows that landing of some important birds in wetlands also depends upon the clues and signatures supporting the occurrence of some related birds in that habitat. Since the birds are important ecological components of any ecosystem the results of such experiments may help in artificially encouraging the landing of birds. Punjab State Council for Science & Technology proposes to install suitable number of plastic birds initially at Ropar and Kanjli Wetland marshes. For this purpose Rs. 50,000/- will be required during first two years of the 9th Five Years Plan.

4. Monitoring of Water Quality :

Quality of water determines the ecosystem health of wetlands. Preliminary studies undertaken by Punjab Pollution Control Board (PPCB) under MINARS programme of the Ministry of Environment & Forests, Govt. of India has found that water quality is of 'A' category at Nangal, when the river makes its turn into Punjab and deteriorates to 'D' downstream of Ropar reservoir. The deterioration of water quality is mainly due to the industrial effluents from Nangal Fertilizer Limited, Punjab National Fertilizer Corporation, Naya Nangal; Ropar Thermal Plant, United Paper Mills, Zenith Paper Mills etc. Without the immediate curative and preventive measures, water quality of this wetland, particularly the areas located downstream of Ropar Barrage, may deteriorate still further. Such measures can be better planned and executed if detailed base line data regarding pollution levels and their sources is available. For this purpose, it is essential to undertake extensive pollution monitoring studies of point and non-point sources along the river. PPCB undertook studies during 1998-99 and had reported that water quality in the reservoir and its upper areas mainly fall in Class ‘A’ to ‘C’ but it deteriorates to Class ‘D’ in the downstream area where industrial effluents join the river (PPCB, 2000). The PPCB would continue to undertaken such studies at five river monitoring stations. Besides physico-chemical analysis of important parameters, biological estimations as well as pesticide residue analysis will be undertaken. An amount of Rs. 9.25 lac is required for five years for undertaking the above said studies.

5. Restoration of Storage Capacity of Reservoir :

The Irrigation Department, Punjab has observed that lot of silt deposition is taking place in the lake thereby reducing the lake storage capacity considerably. The Irrigation Deptt. plans to undertake operations to remove silt from the reservoir at an approximate cost of Rs. 98.00 lac for five years.

6. Conservation and Development of Fisheries :

This wetland had been a major source of fisheries ever since. However, the contractors have over exploited this resource although some regulation

measures are being implemented by the Department of Fisheries, GOP. Since the fisheries form an important and integral part of food web and human food chain, it is essential to sustainably maintain this fragile relationship between the Fish level and the other biotic resources like birds and primary producers. Regular release of fish species is highly essential for this purpose. To upkeep the fish level it may also be essential to set up some fish seed farms nearby and renovate the existing ponds. Besides, some other infrastructure associated with the project is required to be developed. An amount to the tune of Rs. 25.00 lac is required in this regard.

7. Research Studies :

To analyse the biotic components, foodchain sequence in our wetlands and potential threats to these places and their components, and to make long-term conservation strategies, the research studies on aquatic ecosystems of Punjab are being promoted by the State Science & Technology Department. Certain future programmes for wetland conservation will definitely depend upon the research database. Punjabi University Patiala undertook studies on aquatic ecosystems of Punjab particularly for evaluating the food chain structure. Studies on biodiversity of this wetland and limnological parameters besides habitat characteristics and economic valuation of Ropar Wetland resources are priority areas of research as are described hereunder : -

a) Hydrology & productivity: wetland quality depends closely on water quantity & quality. However, decisions regarding dam construction & river embankments are made with little thought on their impact upon the productivity of rivers and flood plains. The effects of degradation or improvement of wetland may not be felt instantaneously or in immediately surroundings. It may be felt at later dates and in far away areas. Detailed studies, therefore, need to be carried out to study the impact of the wetland on hydrogeology of the area.

b) Fisheries & sustainable use of wild life Population: Due to heavy pressure on the wetland areas on account of various factors like encroachment for agriculture, pollution, etc. the impact on faunal populations is catastrophic. It is clear that unless solid argument based on hard scientific data is presented for maintenance of these sites, this pressure is likely to continue. Hence the need of investigation in this area.

c) Traditional human use : Human beings are an important component of any ecosystem and are in reciprocal relationship with it. It is important to understand how breakdown of traditional controls of land use has increased the rate of habitat loss and how it can be checked. Wetland conservation practices can be successful only if its social impact is conducive to its use by the people inhabitating that ecosystem. It is, therefore, important that social impact analysis of developmental versus conservation projects be carried out alongwith environmental impact analysis of various human activities initiated in the wetland area.

d) Land use planning : A thorough understanding of the hydrology, pedology and agricultural potential of the site is required in taking decisions regarding demarcation of the wetland area.

e) Economic assessment : Wetlands have been playing crucial role in human development by providing functional and ecological values. It is essential to undertake economic assessment of Ropar Wetland. Such an assessment would definitely act as a motivating tool to convince the public to protect and conserve it.

f) Flora & Fauna : Detailed taxonomic studies of plant and animal species of this wetland need to be carried out. This will also help to identify the endemic species, if any, of this region, which will invite particular attention for conservation.

A corpus amount of Rs. 25.00 lac for five years will be required for conducting these studies. The research projects can be initiated depending upon the availability of funds.

8. Environmental Awareness and Infrastructural Support to the Environment Centre :

Environment conservation can best be ensured if the public participation can be achieved in the management of eco-systems. For this purpose, it is essential to make the public aware about the importance of such eco-systems. This objective can be better achieved if the awareness programmes could be organised right at the site where the public voluntarily gathers to get information. With this view, the State Govt. has constructed an Information Centre-cum-Watch Tower at Ropar Wetland site. TV and VCR have already been provided to the district administration by the Council for this Centre. However, basic infrastructural facilities and information material like books, posters, pamphlets, blow ups, video films, journals, binoculars, small telescope, etc. are required to be provided for use of general public. Besides, it is desirable to expand the existing interpretation centre, construct bird watching hideouts, organising education camps and putting up of hoardings at various places at an approximate cost of Rs. 30.50 lac.