

RECOMMENDATIONS

The main objectives of this study were to investigate the physico- chemical parameters and macro-biodiversity of the Koshi Tappu Wildlife Reserve (KTWR) and its surroundings because this study area is the most important Ramsar site harboring the gene pool of the wild water buffalo in Nepal and is an aquatic biodiversity hot spot for supporting many species of fish and a very high density of resident and migratory birds in the region. On the basis of the present study, the following measures are recommended for the improvement of water quality and macro-biodiversity of the area.

- 1) The marginalised local people in the surroundings of Koshi Tappu Wildlife Reserve like to use wildlife in their traditional way due to poverty, indifference to natural resources and illiteracy. So, the conservation education must be centered around positive political, social, economic and ecological transformations of the region.
- 2) The marginalised people residing around the KTWR subsist on the reserve's wetland resources. Therefore, for the management of wetlands, the economic status of local people should be raised. Strategies for the conservation of KTWR need policy frameworks that promote sustainable use of reserve's resources, create incentives for conservation by local people, encourage the use of management tools now available and improve people's capacity to use reserve's resources on a sustainable basis. Local people need to be active participants in the planning and implementation of conservation and developmental activities in KTWR region.
- 3) Development of eco- tourism will provide job opportunities for local people and will help in conservation of wildlife and their habitat. The revenue collected from eco-tourism can be invested for the development of this area.
- 4) For the improvement of economic status, the traditional cottage industries such as manufacturing of earthen pots, ropes, mats, baskets and paper bags etc. should be promoted. The agriculture based industries can also be developed around the reserve area.

- 5) Local people collect grass, fodder and fuel wood from the reserve and its surroundings beyond the regenerative capacity which make disturbances to the wildlife and losses of the habitat of birds, mammals, amphibians, reptiles etc. To control such activities, the local people should be encouraged for the plantation of fodder plants and grasses in their private land. For the alternative of fuel woods, the local people should be encouraged to use bio-gas.
- 6) Many ethnic groups depend on fishing around the reserve. They use cast nets, mesh nets and sometimes also use gill nets. This practice depletes the population and diversity of fish species. To control such activity, the fish farming should be developed in private sectors also. Local people mainly who are landless and have no other livelihood options except the traditional practices of poaching, hunting, trapping and poisoning of wildlife, these people should be encouraged for alternative livelihood options through proper training and facilities.
- 7) To maintain the status of wetlands, time to time the obnoxious and invasive weeds like *Eichornia crassipes*, *Pistia stratiotes* etc. should be cleared from the wetlands.
- 8) Another major problem is the deposition of silt in the wetlands of this region by the Koshi river. To control silt deposition, soil erosion should be controlled through revegetation in the catchments areas and river banks.
- 9) Constant monitoring and evaluation of the Koshi Tappu Wildlife Reserve is required in terms of floras and faunas for their effective conservation.
- 10) The reserve authority should give facility for the collection of Khar-Khadai (Thatch) at least once a year. That will provide material benefits to local people.
- 11) The wetlands outside the reserve are being polluted by the chemical fertilizers, insecticides, pesticides and fecal matters of human beings. To

control such pollutants, farmers should be encouraged to practice organic farming and integrated pest management and the local people should be encouraged for making latrine for their own use.

- 12) Not only the wild water buffalo but also the globally threatened faunas such as Gangetic dolphin (*Platanista gangetica*), Gharial crocodile (*Gavialis gangeticus*), Asiatic rock python (*Python molurus molurus*), Lesser adjutant stork (*Leptoptilos javanicus*) and others need special attention for their continuity (conservation) in the KTWR and adjoining areas

- 13) A buffer zone should be established to protect the core area of the reserve from overgrazing by the ever increasing populations of the domestic livestock.