Chapter 08: Conclusion

8. CONCLUSIONS

GIS based data of the study area (Paschim Medinipur) clearly visualized the land use and land cover and modifications, fish faunal diversity and availability which help us to take further decisions in order to manage and protect the habitat of the extant fish species. So, this is highly effective tool in field survey. Special care is to be taken against the threatened fish species on urgent basis. The gathered information will definitely help in accurate understanding the real time finfish faunal diversity, conservation status and enhancement to the researchers and interested enthusiasts.

From the studied zone total 76 fish species recorded (Table-06). The Community Development Blocks having high species richness are Daspur-I, Daspur-II, Pingla, Sabang, Ghatal whereas moderate diversity is seen at Gopiballavpur-I & II, Keshiary, Keshpur, Kharagpur-II,Narayangarh, Binpur-I, Chandrakona-I & II, Dantan-I Debra, Mohanpur and lowest diversity observed at Garhbeta- I,II & III, Binpur-II, Jamboni, Jhargram, Kharagpur-I, Midnapur Sadar, Nayagram, Salboni, Sankrail. The fin fish diversity justifies with the number of available perennial water bodies of the studied blocks in comparison to the remaining blocks having less number of aquatic bodies.

It has been known from the collected data that there are 23 families under 8 orders among which Cyprinidae family shares the highest number (29) and common to the rest followed by Bagridae, Channidae, Ambassidae, Mastacembelidae, Osphronemidae and Siluridae. Single species found in family Aplochelidae, Badidae, Belonidae, Gobidae, Hemiramphidae, Heteropneustidae, Nandidae, Pangasidae, Serrasalmidae and Synbranchidae.

Among the 8 orders Cypriniformes showed the highest number of species (31) followed by Perciformes, Siluriformes, Synbranchiformes,Beloniformes, Osteoglossiformes, Characiformes and Cyprinodontiformes.

Geoinformatics is a crucial tool in field survey and is highly recommended and very effective. The adverse activities of the inhabitant people destroying the fish population and their habitat are to be stopped immediately to save the threatened and near threatened species from being extinct.

The recorded physico-chemical parameters of the available aquatic bodies in Paschim Medinipur revealed that, the parameters like water temperature, pH, dissolved oxygen, Turbidity, TDS, Conductivity, OD ranges within the desirable limit in majority of the months except rainy and summer months and helps grow the fishes of these regions. Average rainfall data is good but in

the Jhargram and part of Kharagpur Subdivision most of the reservoirs losing their water and thereby fish availability.

The key factors in improving the fish diversity observed is the availability of the most number of perennial water bodies and the water parameters like temperature, pH, D.O., flashing of the stagnant aquatic bodies with the inundated river water which has been observed in Ghatal, Pingla, Sabang, Daspur Community Development Blocks.

Dissolved oxygen, pH were observed high in winter month and these provide plentiful environment for the growth of plankton. These parameters exhibited positive correlation in respect to fish diversity.

Biodiversity indices also indicated that good water quality of the reservoir, well species richness but few species were dominant in some of the CDBs. To the point, it is to be mentioned that presence of good number of zooplankton and phytoplankton and its availability throughout the year assure good ecological condition of the reservoir.

Finally, it can be concluded that the number of water bodies has a huge potentiality of fish culture and allows for a high fish faunal diversity with a value of 3.891 in Ghatal Sub-division followed by Jhargram (3.832), Midnapore (3.737) and Kharagpur (3.688) as per Shannon–Weaver index considering number of species by order of fishes. The limnological features, planktonic abundance, macrophytes abundance which enhances production of various fish species as well as fish diversity. The present study would be immensely helpful for evaluating the biological and physico-chemical constituents of the available aquatic bodies which will be used as a future data bank for further studies. Again, fisheries development programme can only be successful if sufficient pragmatic database is available for formulating realistic plan by the techno crates, bureau crates and public representatives.