

CHAPTER-6

SUMMARY

CHAPTER 6: SUMMARY

CHAPTER 1: INTRODUCTION

In the introductory chapter the topic “**Impact of Open cast mining on the fish fauna of Patkai wetland, Assam**” is introduced with emphasis on the past status of Tikak Open Cast mining and its impact on the surrounding environment mainly on the wetlands in and around the area is discussed. The aims and objectives and Plan of study are presented in an organized manner.

The aims and objectives are summarized as follows:

1. To survey the wetlands in and around the mining area.
2. Physico-chemical analysis of water and soil in selected water bodies namely Patkai wetland (Experimental Waterbody) and Mota Beel (Control water body) near mining region with reference to heavy metal.
3. Elemental analysis of water and sediment soil with the help of AAS.
4. To record the plankton diversity in the water bodies to know the pollution status.
5. Comparative Study of fish diversity of the selected water bodies
6. Electron microscopic study of certain organs of the selected fish species *Clarias batrachus* to see alteration in the ultra structure
7. To suggest measures for reclamation of the wetland near mining area.

CHAPTER 2 : REVIEW OF LITERATURE

This chapter deals with general review of literature regarding aquatic diversity, metal pollution in water, fish and plankton diversity, impact of metal on fish tissues, ultra structural study of fish gill, Liver and kidney and restoration of polluted water bodies .

CHAPTER 3 : MATERIALS AND METHODS

This chapter deals with a general description of the materials and methodologies that includes survey of the potential wetlands of Margherita sub-division, selection of the study sites (control and experimental) and detailed plan of the study. It includes the description of the fish material namely *Clarias batrachus* (L.) for electron microscopy.

Materials and methods for individual study were indicated in each chapter.

SELECTED WATERBODIES FOR HYDROBIOLOGICAL STUDY

Lakes	Usage
1.Patkai lake (Experimental)	Religious, bathing and washing of clothes
2.Mota beel (Control)	Agricultural and pisciculture

CHAPTER 4: EXPERIMENTAL STUDIES:

4.1. HYDRO-BIOLOGICAL STUDIES

This chapter deals with 22 variables of physico-chemical characteristics of water and 14 variables of sediment soil of the selected water bodies namely Mota beel as control and Patkai lake near Tikak OCM as experimental water body with special reference to heavy metals.

The study also includes distribution and diversity, percentage composition, seasonal variation of plankton and fish in these wetlands.

This chapter includes an introduction to the subject, material and methodologies adopted for evaluation, results with statistical and graphical analysis and the results are correlated with supported reference.

CHAPTER 4.2: ELECTRON MICROSCOPIC STUDY

This chapter incorporates introduction, review of literature on ultra-structural studies on fish tissues, methodology adopted for SEM and TEM (Electron microscopy).

It discussed ultra-structural alteration in the selected vital organ of *Clarias batrachus* viz. gill, liver and kidney of the wetlands to assess the metal pollution.

CHAPTER 5: GENERAL DISCUSSION

This chapter deals with the analysis and interpretation of the results obtained in the course of study are presented in the thesis. The observations and interpretations in different phases of the present study presented in the foregoing chapters are carefully discussed aiming to archive a logical and deductive baseline information on the topic "IMPACT OF OPEN CAST MINING ON THE FISH FAUNA OF PATKAI WETLAND, ASSAM."

CHAPTER 6: SUMMARY

This chapter includes the findings of the experimental studies on the selected water bodies and selected fish from control as well as the experimental water body and comparative remark revealed the present status of the water bodies.

CHAPTER 7: CONCLUSION

On the basis of current polluted status of Patkai wetland (Experimental) near the Tikak OCM recommendations are given in this chapter for eco-restoration of the wetland.

BIBLIOGRAPHY

In this chapter all the references are arranged systematically in ascending way of alphabetical order with complete citation of bibliography.