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## Chapter 2

### Determination of Limnological Parameters That Affects the Fish Productivity

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#### Abstract

Physical, chemical and biological parameters like Temperature, Total alkalinity, pH, Dissolved oxygen, Nitrate Nitrogen and planktons were studied in three ponds (1, 2 & 3) in Khurda district of Odisha. The parameters studied in all the ponds varied but statistically insignificant. The ponds were stabilized empowering the people with the techniques for composite fish farming using *Catla*, *Rohu* and *Mrigal* as candidates for harvesting.

**Key words:** Temperature, total alkalinity, planktons, ponds.

#### Introduction

Limnology is defined as the study of fresh water and their inhabitants. The growth and survival of aquatic inhabitants depend on the quality of water Boyd 1989,1990, Philips 1991, Jhingran 1985. The quality of water depends on the physical, chemical and biological characteristics of water is known. Zweig et al. 1999, Adeniji and Ovie 1982; Das and Padhi 2014, Padhi et al. 2015. Hence the present study is focussed on the determination of quality of water in order to utilize the ponds for aquaculture. Fish plays an important role in agriculture sector of India. It provides livelihood to more than 60 million people and earns more than 6800 crore rupees through export. Limnological studies have been carried out by Olopade 2013 and Nikolosky 1963. The Main objectives of the study was to determine physical, Chemical and biological characteristics of ponds in order to utilize them for fish culture and thus