CHAPTER-2
REVIEW OF LITERATURE

Water is vital to our existence in life and its importance in our daily life makes it imperative that thorough physico-chemical examinations conducted on water. Potable water is the water that is free from disease producing microorganisms and chemical substances that are dangerous to health (Lamikaran 1999).

Limnological research had gone more than 100 years and cover physical, chemical, and biological aspects of water quality. All these aspects had profound impact on aesthetical and usability to consumers, they are linked and inseparable to ensure water quality (Meybeck et al., 1996; Kazanci and Dugel 2000; Tuzen et al., 2001 and Viswanathan et al., 2010). Physico-chemical analyses cannot yield enough information on the whole health of the river ecosystem (Viswanathan et al., 2010).


Water pollution in India has come to a critical point. Almost all major river of India are facing the problem of pollution Bhargawa *et al.*, 2007 anthropogenic activities, urbanization, industrialization have influence the water resources quantitatively and qualitatively. Pressure on reverine ecosystems is enormously increasing due to fast industrial and urban growth. The growth and diversity of aquatic micro flora in river system is influenced by several physicochemical parameters. These factors affected the ecosystem of river. Many studies on water quality of fresh water have been conducted from all over India. (Chouhan and Kanhere 2013, Verma *et al.*, 2013, Sharma *et al.*, 2013 and Pir *et al.*, 2012).

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animals attached to objects on the pond bottom. They are also being used as bioindicators of water quality Goswami (2004). Zooplankton organisms occupy a central position in the food webs of aquatic ecosystem. They do not only form an integral part of the lentic community but also contribute significantly, the biological productivity of the fresh water ecosystem (Wetzel 2001). The importance of the Zooplankton is well recognized as these have vital part in food chain and play a key role in cycling of organic matter in an aquatic ecosystem.

Water is one of the most important natural resources essential for all forms of life. This resource is being contaminated everyday by various anthropogenic activities, such as rapid growth of population, urbanization and industrialization that ultimately make the environment polluted. In Barwaha (near of Omkareshwar Jyotirlinga) the Narmada River has always been the most important fresh water resources. However the Narmada water is used in every sector of development like agriculture, industry, transportation, aquaculture, public water supply etc. Huge load of wastes from industries, domestic sewage and agriculture practices find their way into the Narmada, resulting in large scale deterioration of the water quality and affect the physico-chemical parameters of water. The status of the Narmada river water is very much useful as it determine the physiological life cycle of plants, animals and human kingdom. Recently biological waste treatment is emerging as a natural environment friendly, permanent and greater public acceptance as less expensive and minimal site distribution technique of waste elimination.

Considering the above facts, the present study is aimed to Limnological studies of Narmada Water- (Khedighat, Barwaha, M.P.) with special emphasis on the effect of Distillery effluent.