2. REVIEW OF LITERATURE:

Scarcity of fresh water is a major problem for human being in the world. Numbers of Institutions are working on the various aspects of water at national and international level from last several years. American Public Health Association (APHA), AWWA and World Health Organization (WHO) are working at international level. Indian Water Work Association (IWWA) and Central Pollution Control Board (CPCB) are involved in the conservation and proper maintenance of freshwater bodies.

The first United Nation Conference was held in 1977 at Mar del Planta, Argentina. Global Consultation on Safe Water and Sanitation was organized in 1992 in New Delhi. Government of India has been established the Ministry of Environment and Forest Department in 1981 (MoEF) to look after the environmental aspects of air, water and soil. National River Conservation Directorate (NRCD) controls the National River Conservation Programme (NRCP) and National Lake Conservation Programme (NLCP).

In Maharashtra, the Maharashtra Pollution Control Board (MPCB) is performing an important role for the assessment, conservation and maintenance of water bodies.

Many workers have discussed number of aspects all over the world about the water quality. Hutchinson et. al. (1929) have studied seasonal variations in the physico-chemical properties of the water of Strait of Georgia in relation to phytoplankton. Ganapati (1940) studied the ecology of a temple tank containing permanent bloom of *Microcystis acculoginosa* (Kutz).Welch (1952) worked on Limnology. Limnology of Wetzel (1975) and Cole (1983) is famous and significant. Dey (1977) has performed some limnological observations of an Oxbow lake in Kamrup district. Singh and Mcfeters (1992) have recorded microbiological monitoring of drinking water which has been practiced in the United States and other countries. Khalil (2000) studied the impact of pollution on productivity and fisheries of lake
Mariut, Egypt. Singh (2000) has carried out evaluation of physicochemical parameters in an Ox-Bow lake. Sah et. al. (2000) have assessed water pollution in Narayani river of Nepal.

River is one of the forms of surface water. In India numbers of rivers have been studied for status of water pollution as well as for their water quality. Synudeen (2004) has studied hydrology and phytoplankton in the Kallada River Kerala.

Mathur et al. (1988), Quadri et al. (1993) have carried out the study on pollution of river Ganga at various regions. Choubey (1995) from National institute of Hydrology carried out the water chemistry of Tawa river and reservoir in central India. Abbasi et al. (1996) have evaluated water quality of river Punnurpuzha of Kerala. Agrawal and Kannan (1996) worked out a study on degradation of river due to diffuse activities in river Mandakini. Heavy metal distribution in river Jhansi has been worked out by Baruah et. al. (1996). Chaturvedi et. al. (1996) have observed drinking water quality of Kolar Dam water, Madhya Pradesh. Singh et. al. (1999) have studied the physico chemical characteristics of river Ghaghara. Bhosale and Rao (2001) reported the bacteriological quality of the water of river Godavari before and after treatment.

Dasgupta et. al. (2001) evaluated the river Brahmani and groundwater basin from village Timjore, Orissa and water utility in agricultural sector for irrigation purposes.

The reservoirs are also the important source of surface water and have been worked in several parts of country. Ahamad and Jain (1996) assessed pollution load of Kerwan Dam water at Bhopal during pri-monsoon season. Jain et. al. (1996) carried out the seasonal variation in physico-chemical parameters of Halali reservoir of Vidisha district. Sreenivasan, et. al. (1997) have performed limnological studies of shallow water body (Kolovoi Lake) in Tamilnadu. Dhankar and Sangwan (2004) have assessed the water quality from different regions of Mahendragarh, Haryana. Singh and Mathur (2005)
performed investigations of variations in physico-chemical characteristics of a fresh water reservoir of Ajmer city, Rajasthan.

The ground water quality assessment has been studied thoroughly by several Indian workers. Baruah et. al. (1995), Jaykumar et. al., (1995), Krishna et. al. (1996) studied the water quality parameters of bore wells of Reddigudem mandal. Panda and Patel (1996) have studied the impact of dead body cremation wastes on the water quality of river Saryu at Ayodhya which deteriorates with heavy load of pollutants. Jain et. al. (1996) evaluated the ground water quality in district Haridwar. Singanan and Rao (1996), Gupta and Saxena (1997), Gowd and Kotaiah (2000) have studied seasonal variations of water quality of Kalyani reservoir near Tirupati. Biswal et. al. (2001), Das et al. (2001), Mohapatra et. al. (2001) have studied the ground water qualities of various sites in India. Gupta et. al. (2004) have performed chemical analysis of ground water of Sanganer area, Jaipur in Rajasthan. However, much information is needed especially with reference to specific water bodies of small dimensions i.e. work should be at micro level and no small fresh water bodies are neglected.

In Maharashtra, the work on several water bodies has been assessed by many workers. Garud (1983) has conducted study on water quality problem in Kolhapur and Karad city. Trivedy and Goel (1984) have evaluated 11 talukas of Satara district of Maharashtra for drinking water quality. Goel et. al. (1985; 1986) have studied the limnology of few freshwater bodies in south western Maharashtra with special reference to their chemistry and phytoplankton diversity. Singh et. al. (1989) carried out the mass bathing effect on water quality of sangam during Maha Kumbha Mela at Allahabad. Goel and Chavan (1991) studied the limnology of polluted freshwater tanks. Bhosale and Rao (2001) have studied the river Panchganga at Kolhapur with special reference to human impact on water quality. Bahador et. al. (2005) have investigated seasonal variations of
microbial pollution in surface water of Pavana River for various seasons in Pune city.

In India, several studies have been made to understand the physico-chemical properties of lakes, reservoirs and ponds. George (1961, 1962) has studied the physico-chemical characteristics of shallow ponds at Delhi. Studies of fish ponds at Seoni, Madhya Pradesh have been made by Verma (1967), whereas Khatri (1985) has investigated Idduki reservoirs, Kerala. Jain et. al. (1996) have evaluated Halali reservoir of Vidisha District. Mohanraj et. al. (2000) have studied pollution status of wetlands.

The work on fresh water has been carried out by many workers. Bhosale et al. (1994) have reported the survey and status report on some wetlands of Maharashtra. Patil (2003) has worked on Ecological studies in some lentic water bodies of Kolhapur city. Study on quality of surface and ground water in Panchaganga river basin of Kolhapur district has been done by Kulkarni (1993). Lomte (2003) has worked on studies on drinking water pollution of Kolhapur. Hujare (2005) has studied the hydrobiological features of some water reservoirs of Hatkanangale tahsil. Pailwan (2005) has worked out the limnology and fisheries potential of perennial tank of Kolhapur district. Jadhav et. al. (2009) have studied the changes in quality of water bodies due to ritual activity at Jotiba (Wadi Ratnagiri).