

# Water and Water Parameter with Special Reference to Fish Culture

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**Abstract-** This paper discuss about the almost important of water. About 71% percent of the earth is covered with water. The water found in the oceans on earth is salty. In fact, only a small part of fresh water is available to sustain human, plant and animal life. Fish cannot survive without water and fish are completely adapted to live in water. All their physical activities take place in water. In this way, reproduction of fish also takes place in water. Due to toxicity of water, face many problems in survival and growth.

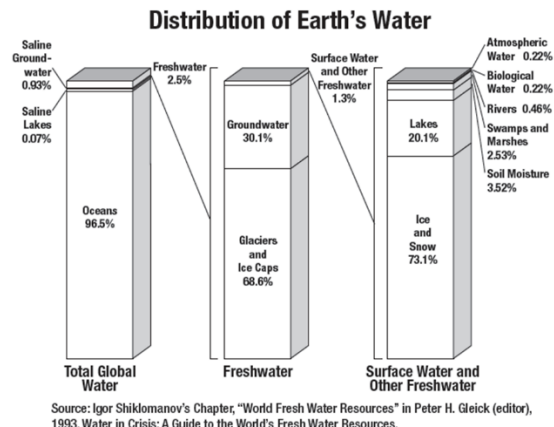
**Indexed Terms-** Water, Water Parameter, Fish, Fish Growth, Water Toxicity

## I. INTRODUCTION

Water is an important component given by nature. Water is present in 2/3<sup>rd</sup> part of the earth. All living organism need water to survive and grow. Water provide some recreational uses as well as habitat for wild life. Water is basic of life in protoplasm. Water is most significant overabundant compound of the earth. The earth has only 3% of freshwater out of all the water available on the earth and only 1.2% water can be utilized as drinking water. It is thus quite clear that freshwater ecosystem consists only 3% of all ecosystems on earth. In fresh water system, factor like water over flow, temperature, dissolved oxygen levels, nutrients concentration, and the presence of pollutants greatly influence the fish health and growth. Balancing these factors is essential in aquaculture settings of ensure the optimal growth and health of cultivated species like carp, trout catfish, tilapia.

Fish is a most important vertebrates in water ecosystem .Entire pure and applied aspects of fishes are studied in to a separate discipline of animal sciences called-ichthyology (Ichthys=a fish ,logos=discourse).The fish = pisce in Latin ;Poisson in

French ; Pescado is Spanish ;Pisce in Italian ;Fisch in German; Matsya in Sanskrit and Meen or Machli in Hindi -are cold blooded, jawed, aquatic streamlined vertebrates having gills for respiration and limbs represented by fins for locomotion .(Pandey and Shukla2013). Fish is important role in indian economic, medicine, rular employment etc.



## II. WATER QUALITY

Water quality includes all physical chemical and biological factors. There are many water quality is variable. Under physical limnology transparency, turbidity, and temperature were studied

**TRANSPARENCY-** The extent to which light penetrates the water is determined by the transparency of the water The productivity of fish also depends on the transparency of the water. If the color of water is light blue or green then the amount of planktons in water bodies is high.

**TURBIDITY-**Water turbidity effect the fish culture . Maximum turbidity is higher during monsoon seasons. Due to turbidity, less light reaches the water body due to which the process of photosynthesis slow down.

The process of photosynthesis affected due to which the fish are not able to get proper oxygen.

**TEMPERATURE-** The degree of hotness and coldness of any aquatic organism or water is called temperature. The temperature of any water body depends on sun light, depth and climate. Seasonal variation in the temperature of any water body has a great impact on its productivity. Any organism has an optimum range to tolerate temperature. And each species has temperature range with in which grow quickly. The temperature effect the fish pond productivity.

The productivity Under the chemical limnology, pH, Total hardness, gases were studied

**PH-PH** is really a measure of the free hydrogen hydroxyl ions in the water. The normal range for pH in surface water system is 6.5 to 8.5 and for ground water system 6 to 8.5. The pH of water is very important for fish because fish completely depend on the quality of water. When the Ph of water is low, the fish becomes stressed and if it is overworked, the fish dies. The growth and reproduction activity of fish is favorable when there is ideal Ph range.

**Total hardness-** The hardness of water usually define as a high concentration of magnesium and calcium. Due to high hardness in water, the fish becomes stressed. Fish required calcium and magnesium for metabolic responses such as a bone and scale development.

**Gases-**Dissolved gases are available in water. Oxygen, carbon dioxide, nitrogen and ammonia are the most common gases. Dissolved oxygen most parameter for aquaculture. Low oxygen in water is directly and in indirectly responsible for the death of fish and other problem. Carbon dioxide is used in the process of photosynthesis in water. As waste fish excrete ammonia found in water.

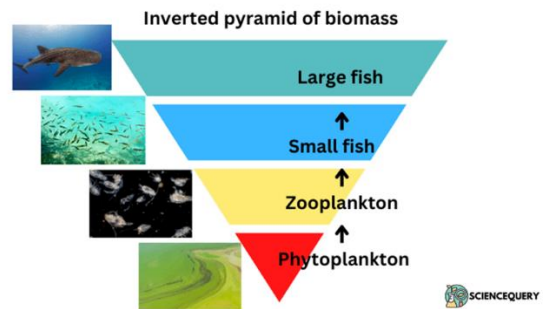
### III. PLANKTONS

Plankton include all microscopic organism of which small plants are called phytoplankton and small animals are called zooplankton. The minute organisms

which remain suspended in aquatic bodies were for the first time recognized in 1845 by John Miller.

**PHYTOPLANKTON-** Phytoplankton are the self-feeding component are of the plankton community. Phytoplankton are small plants having no or very limited power of locomotion. Phytoplankton are primary producer of any aquatic environment. The consume carbon dioxide and release oxygen. The growth of phytoplankton depends on the available carbon dioxide, sunlight and nutrients in the water body.

**ZOOPLANKTON-**Zooplankton is the most important major primary consumer of aquatic ecosystems and they are the best indicators of water. The growth and distribution of zooplankton depends on biotic and abiotic factor. Zooplankton play important role in aquatic food web in aquatic animals especially fish. The community of zooplankton is the best indicator of environmental variation.



### CONCLUSION

Water is essential component of life. Water is necessary and fundamental life. Water is molecular substance that has unique chemical and physical properties related to function in human body and fish. Water quality parameter provide physical, chemical and biological support to the daily functioning of fish including feed swimming metabolism, development of fish body and excretion. Toxic water quality effect the fish and decrease the fish growth and fish health.

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