

## 5. Study on Some Biological Aspect of Achler Water Tank in Lohara Taluka (M.S.) India

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### Abstract

The present investigation deals with study on some biological Aspect of Achler water tank in Lohara Taluka(M.S.) India .The work was carried out during the a year( Jan 2016 to Dec 2016).The Achler water tank is Earthen dam having maximum height 14.20m. Achler is a big village and about 35 Km. away from Naldurg city. The catchment area of the dam is 14.71 Sq. Kms. Its live storage capacity is 0.9 mm<sup>3</sup> & having full tank level 11.20 m. and its about 196 hect. Irrigation area. This dam has been completed in 1979. The Achler water tank is mainly for irrigation, drinking water, domestic activities, cloth washing and fishery purpose. The same biological aspect were studied during the study period. The aspect like M.N.P., counts , Protozoan, Helminthes eggs., Arthropods and rotifers were studied the investigation period.

**Keyword:** Biological Aspect, Achler water Tank.

### Introduction

Achler tank is its longitude 76°-50<sup>0</sup> and Latitude 17°-30<sup>0</sup> .It is earthen dam completed in 1979. Environment consists of five element air, water, land pure water is a basic need of life. Day by day pure water is a problem of the world it is polluted by various way i.e. chemical and biological ways and one of the most important element of the biosphere and it is necessary for sustain all plant and animal water pollution gives birth to many water borne diseases. The biological aspect of water bodies includes M.N.P. of coli form, protozoa, helminthes eggs, arthropods, and rotifers. The many workers carried out on biological aspects of Indian water bodies. They work carried discussed by Arora H.C, (1996),Arijariya Amita (2003), Agarkar S.V.(2000),Batish and Kumar (1986), Banker & Deshmukh (2004), Sakhare V.B. & Joshi P.K. (2002), Saxena & Sharma (1981), Goel & Trivedy (1984), Thomas & Aziz M.S. Kodarkar (1998), worked out on this problem. However no such work was recorded on Achler tank in Osmanabad District of Maharashtra. Therefore the present work was under taken to study the Biological aspect of Achler water tank.

## **Material and Methods**

Monthly sample were collected from the four sampling station A, B, C, D, during the a year Jan 2016 to Dec 2016. Surface water sample were collected directly in two liter capacity container. The methods used for the analysis of biological parameter areas given in APHA (1980), Trivedy & Goel (1984), and Kokarkar et,al (1998).

**Study Area:** Fig. Map of Achler water Tank.

## **Result and Discussion**

### **1. M.P.N. of Coli form**

During the course of investigation of M.P.N. of coli form was detected. It was ranged between 81-501/100 ml of sample station A. The sample station B was ranged between 80-500/100ml. The sample station C was ranged between 78-494/100ml and sample station D was ranged between 79-489/100ml. It was detected maximum during the month of May and minimum during the month of January of MPN of coli form exhibited positive correlation with helminthes eggs protozoa, rotifer and arthropods.

### **2. Protozoa**

The protozoa was represented by cyst of Balantidiwm coli and cysts of E. histolytic. The total population was highest in 12/lit lit. in the month of November and lowest in the 07/lit. in the month of August in sampling station A. The sampling station B was total population was highest in 12/lit. in the month of Nov. and lowest in the 08 /lit in the August. The sampling station C was total population was highest in 13 /lit in the month of Nov. and lowest in the 09 /lit in the August and The sampling station D was total population was highest in 12 /lit in the month of Nov. and lowest in the 07/lit in the August. The protozoa of coli form exhibited positive correlation with helminthes eggs, MPM, rotifer and arthropods where as negative correlation with physico-chemical aspects.

### **3. Helminthes eggs**

The helminthes eggs identified belong to Ascres lumbricodes, Enterobius Vermicularis F. hepatica, Trichurus trichure. The helminthes eggs found in maximum 27/lit. in month of Sept. Sampling station A, B, C, D. Eggs of Ascres lumbricodes were most prevalent being found particularly in all month followed by Trichuris trichure observed for 10 month. Fasciola hepatica and Hymenolepis nana observed for 09 months. Enteribius vermicularis observed for 08 months. Helminthes eggs as positive correlation with M.P.N. protozoa, rotifer & arthropods.



#### 4. Arthropoda

In arthropods Cyclops, Daphnia and Nauplius were observed. The arthropods population was highest 62 /lit in the month of May and lowest 16/lit in the month of November sampling station A. The sampling station B was highest 61/lit in the month of May and lowest 15lit in the month of November. The sampling station C was highest 63 /lit in the month of May and lowest 16/lit in the month of November and sampling station D was highest 62/lit in the month of May and lowest 16/lit in the month of November. Arthropod population was dominated by Nauplius. Arthropod exhibited positive correlation with protozoa, MPN, Helminthes eggs.

#### 5. Rotifers

Rotifer were represented by 05 genus i.e. Branchionus, Keratella, Chrochrometo gathere, Epiphany and fillina in the summer season rotifer population was maximum all sampling station, where as during the winter season. The highest density of rotifer is 67lit in the months of June and lowest density i.e 21lit. in the months of feb. sampling station A B C D. Rotifer exhibited as positive correlation with MPN, protozoa, Helminthes eggs and arthropod.

**Table :1 Biological Aspect of Achler water Tank Jan 2016 to Dec 2016.**

Sr. No	Biological Aspect	Sampling station A	Sampling station B	Sampling station C	Sampling station D
1	M.P.N.	81-501/100ml	80-500/100ml	78-494/100ml	79-489/100ml
2	Protozoa	07-12/lit.	08-12/lit.	09-13/lit.	07-12/lit.
3	Helminthes eggs	11-27/lit.	10-26/lit.	11-27/lit.	11-27/lit.
4	Arthropod	16-62/lit.	15-61/lit.	16-63/lit.	16-62/lit.
5	Rotifer	22-67/lit.	21-66/lit.	22-67/lit.	21-67/lit.

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