



STUDY ON BIO-CONTAMINATION OF JALKOTWADI (NAL) WATER TANK IN TULJAPUR TALUKA OF OSMANABAD DIST, (M.S.) INDIA

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Abstract

The present investigation was carried out to study on Bio-contamination of Jalkotwadi (Nal) water tank in Tuljapur Taluka of Osmanabad Dist. The work was carried out during Jun 2015 To May 2016 a year .Jalkotwadi Tank is manmade pecculation water tank. It's mainly manmade for irrigation, drinking water; cloth washing, domestic activities; and fishery purpose. The study of assessment of physic chemical and Biological aspects were studied. The aspect like water Temp. pH; CO₂; D.O. ; Alkalinity ; M.P.N. Protozoan; Helminthes eggs ; Arthropoda ; and Rotifers etc.

Keyword: Assessment of Bio contamination Aspects, Jalkotwadi (Nal) Water Tank

Introduction

Environment consist of 7 element air, water, land pure water is basic need of life. Day by day pure water is a problem of the word it is polluted by various way i.e. chemical & biological ways. Biocantamination of the water resources were studied throughout the word. Water pollution means excess concentration of foreign material water is one of the most import ant element of the biosphere and it is necessary for sustain all plant and animals water pollution give birth to many water borne diseases. The biological contamination of water bodie s includes disease producing Bacteria, protozoan, helminthes eggs. Zooplankton and some arthropod fauna many worker carried out on biological contamination of Indian water bodies. Kulshreshtra etal 1992, Thomas & Aziz , M.S. Kodarkar, 1998 Goel & Trivedy 1984, Saxena and Shama 1981, Bankar & Deshmukh 2004, worked out an this problem however no such work was recorded on Jalkotwadi (Nal) water tank in Osmanabad district of Maharashtra these for the present work was under taken to study the biocantamination of Jalkotwadi water tanks.

• Material and method

The monthly water sample were collected form the tank for a period of one year Jun 2015 To May 2016 in a morning time surface water sample were collected directly in two liter capacity plastic container. Brought to the laboratory and analyzed some parameter were checked on the spot. The method were used for the analysis of various physic. Chemical and biological parameters are as given in methodology for water analysis APHA 1980, Trivedy and Goel 1984, and Kodarkar etal 1998.

Result and discussion.

- **Water Temp :-** It varies from 19^oTo 37.55^oc the minimum was recorded in January And maximum in May.
- **pH :-** The pH of water ranged between 7 To 7.86 Jalkotwadi Tank. The minimum was 7 in the month of December. And highest 7.86 in the month of June.
- **Free Co₂ :-** The values of free Co₂ was varies form. 7.32 To 29.21 mg /lit The free Co₂ was observed lowest in the summer and highest in rainy season.
- **Alkalinity :-** The water of Jalkotwadi Tank was moderately alkaline throughout the period of observation Total alkalinity was ranged between 75.91 To 120.10 mg/lit
- **Dissolved oxygen :-** The values of D.O. ranging between 6-85 To 11.05 mg/lit The value of D.O. was maximum during rainy season and minimum in summer.
- **MPN :-** During the period of Investigation M.P.N. of coli from was detected. It was ranged between M.P.N. 50 To 225 / 100 ml of coliform was detected maximum in the summer and minimum to winter.
- **Protozoan :-** Protozoan was represented by cysts of Entamoeba histolytica. The total was highest 7 To 11/lit in the month of November.
- **Helminthes egg :-** During the period of Investigation. The helminthes eggs identified belongs to Ansaris lumbricoides, Enterobiusvermicularis Fasciola hepatica, Hymenolpis Nana. The Helminthes eggs and minimum 11 To 20/lit
- **Rotifer :-** Rotifers was represented by Branchionuskeratella, Filinia, Epophanies. The Banchionus was dominated in the tank. The highest density of Rotifer 22 To 65 / lit

was observed in the month of may and lowest in the month of January.

- **Arthropods :-** The members of Arthropods like Cyclops, Daphnia and Nauplius were

studied. The Arthropod population was highest 16 To 49 / lit The Arthropod population of was dominated by Nauplius.

Table 1

Sr No.	Parameter	Range
1	Water Temp	19 ^o To 37.55 ^o c
2	pH	7 To 7.86
3	Free CO ₂	7.32 To 29.21 mg /lit
4	Alkalinity	75.91 To 120.10 mg/lit
5	DO	6-85 To 11.05 mg/lit
6	MPN	50 To 225 / 100 ml
7	Protozoan	7 To 11 / lit
8	Helminthes eggs	11 To 20 /lit
9	Rotifer	22 To 65 / lit
10	Arthropoda	16 To 49 / lit

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References :-

APHA, 1980. Standard Method for the Examination of Water and Wastewater, 15th edn. New York, pp. 1134

Arora, H.C., 1996. Studies on Indian Rotifer Part-V on species of some genera of the family Brachionidae arch, Hydrobiol., 61:482-483

Arjariya, Amita, 2003. Physicochemical profile and plankton diversity of Ranital lake Chahatarpur M.P. Nature, Environmental Pollution Tech., 2(3) : 327-328.

Agarker, S.V., 2000 Physicochemical and biological parameters of Vyzadi reservoir, water. Indian Hydrobio, 3(1):3-5.

Batish, S.K., and Kumar, 1986. Effect physico-chemical factors on the seasonal abundance of Cladocera in tropical pond at. Village of Ragba, Ludhiana, India. J. Ecol., 13(1): 146-151.

Banker and Deshmukh, 2004. Bacteriological characteristics of Drinking water from public places in Satara Dist. Maharashtra. J. Aqua Biol, 19(2): 1-6.

Kodarkar, M.S. Diwan, A.D., Murugan, N., Kulkarni, K.M. and Ramesh, Anuradha, 1998. Methodology for Water Analysis: Physico-chemical Biological and Microbiological. Indian Association of Aquatic Biologist, Hyderabad, PP. 102.

Trivedy, R.K. and Goel, P.K. 1984. Chemical and Biological Methods for Water Pollution Studies 2nd edn. Environmental Publication, Karad.