



ANALYSIS OF PHYSICO-CHEMICAL PARAMETERS OF KUNDA RIVER (MAJOR TRIBUTARY OF NARMADA FROM NIMAR REGION)

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ABSTRACT

Kunda river a large tributary of Narmada from Nimar region, which starts from Village Pipalzhopa, Tehsil Bhagwanpura, Distict Khargone to Village Hopa, Tehsil Kaswarad, District Khargone. In the present study, various physicochemical and pollution parameters like alkalinity, chloride content, total hardness, Mg hardness, Ca hardness, pH value, turbidity of Kunda river were studied. The study shows the hardness, alkalinity, chlorides, turbidity of water of Kunda River, which contains sewage of Khargone City was found above the prescribed limit. Therefore the conservation and management of this water is very much required as it supplies water to 1.5 lac population of Khargone city^{1,2}.

Key words: Physico-chemical, Kunda river, Nimar region.

INTRODUCTION

With development of civilization the problem of pollution of water and air is increased to large extents. As water is used for drinking purposes, its pollution may be hazardous to human beings and aquatic lives³. Accident due to poisoning by industrial waste had created damage many times where water born diseases from sewage have taken many lives particularly in developing countries⁴.

There are three main dimensions for pollution of river water, agriculture run off, which pollutes river due to use of insecticide and pesticide⁵. Industrial effluents and domestic sewage Tube well water is polluted by minerals like access of fluoride, silica which may be very harmful².

River Kunda, A major tributary of Narmada flow mainly in Nimar district and is

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main sources of water for the people of the this area pollution study for Kunda river is taken up as a project, as this river of tribal area is never studies for pollution.

Studies of pollution will be carried out at different point of Kunda River by collecting water at the different places of Khargone.

EXPERIMENTAL

Kunda River is a long river starting from Pipalzhopa, Bhagwanpura, Khargone and merge in Narmada at Kasrawad Hopa village, Dist. Khargone. Water from small river like Kharaak river and Veda River is pond into Kunda at different places. It contains all the season water. Its water is mainly used for drinking purpose, irrigation, fisheries etc. Sample of sub-surface water in triplet were collected during morning hours 7 to 9 AM. Iodine treated double stop pad polyethylene bottles were used for the collection of water samples. Bottles were kept in ice bucket and brought to the laboratory for analysis⁶. Some of the physico-chemical characteristics of water including water temperature, colour, transparency, pH, total alkalinity, total hardness, chloride content, calcium and magnesium hardness were analyzed using titrimetric method at our institute laboratory

Sample of Kunda River were collected from the different points of Khargone city area in the month of February 2012. The physico-chemical analysis of Kunda River was carried out as per the standard methods for analysis of water^{7,8}.

RESULTS AND DISCUSSION

Physico-chemical parameters

The result related to the physico-chemical parameters of the Kunda River collected at different various sites have been listed in the given Table 1. Range of variation and their standard deviation of various physical chemical characteristics of water of Kunda River Khargone is also given in Table 1.

Table 1: Physico-chemical analysis of river Kunda at different point at Khargone city

Parameter	Point 1	Point 2	Point 3
Colour	Yellow	Light yellow	Light yellow
Odour	Sweet	Light sweet	Light alcoholic
Temperature (°C)	32	32	32
pH	5.4	5.46	5.92

Cont...

Parameter	Point 1	Point 2	Point 3
Total hardness (ppm)	340	350	390
Ca hardness	49	50	66
Mg hardness	291	300	324
Total alkalinity	105	195	220
CO ₃ ²⁻	30	100	140
HCO ₃ ⁻	75	95	80
OH ⁻	0	0	0
Chloride	105	105	155

Point 1. Water sample taken from 1 Km above at Khargone city

Point 2. Water sample taken from Khargone city

Point 3. Water sample taken from 1 Km below at Khargone city

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