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STUDY ON THE HAZARDOUS WASTE GENERATED BY VARIOUS INDUSTRIES IN CHITTOOR DISTRICT OF ANDHRA PRADESH

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ABSTRACT

In the Chittoor district of Andhra Pradesh (A.P.) water samples were collected near and around selected industrial areas i.e., from Chennampalle, Attur, Kallur, Nelchampeta, Ekambara Kuppam villages. In the water samples certain hazardous parameters like pH, turbidity, TDS, chlorides, sulphates, nitrates and the fluoride contents were measured. The results indicated excepting to TDS and sulphates the remaining parameter were found to be above the standard levels. Out of the study it is recommended that proper precautions should be taken to overcome fluorosis which severely impair the normal human health in the studied area.

Keywords: *Industrial wastes, Chittoor district, Andhra Pradesh.*

No of Tables: 1 **No. of References: 6**

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INTRODUCTION

Water used by people and industries disposed into a receiving water body with altered physical and chemical parameters is defined as waste water. If the water, however, has been contaminated with soluble or insoluble organic or inorganic material, a combination of mechanical, chemical, and/or biological purification procedures may be required to protect the environment from periodic or permanent pollution or damage (Gidhamani *et al.*, 2012; Silverstein and Denton, 1997).

This needs thorough experimental data on the lines of analysis of water by area wise industrial areas. With this background, the author made an attempt to analyse the water samples from different industrial areas of Chittoor district, A.P and the hazardous agents found were reported in the current status.

MATERIALS AND METHODS

Effluent Source:

For the present study the effluent samples were collected from ponds, drainage, borewell which are nearer to the industrial sites like sugar, pharmacy, granite, alloy casting, distilleries and these factories were located in the villages like Channampalle, Attur, Kallur, Nalcha-mpeta, Ekamabra and Kuppam like places of Chittoor district, Andhra Pradesh.

The water samples were carefully taken to Hyderabad Microtesting Labs Pvt. LTd., To assess the pollution causing agents like pH, TDS, Cl, SO4, NO3, Mn, Fe and F were only taken. The samples from seven villages were named as 1-7.

RESULTS

The data in table-1 shows the results of the water samples from seven locations. The pH of the sample 6^{th} and 7^{th} is more than the IS: 10500 standard levels. The turbidity levels of all the samples were found to the exceeding the desirable standard limit of 5 as per the IS: 10500 standards. The concentration of the total dissolved solids in almost all the samples exceeded the desirable limit (500mg/li).

The 4^{th} sample contained highest concentration chlorides (673). The samples 3, 4 and 6 contained more sulphate compassed to the standard values. All the 7 samples shows higher levels of their fluoride content compared to the standard value which is supposed to be.

DISCUSSION

The results of the current study clearly indicate that the industrial effluents like water samples pH, turbidity, TDS, chlorides, sulphates, nitrates and flurode were more than the standard values in the 7 individual areas, this situation reflects that the water sample of 7 areas selected for the study were polluted. As mentioned by earlier authors (Sims, 1990, Tripati et al., 1990; Chopman, 1996; Akinola et al., 1981) contaminated water due to release of industrial effluents (as observed in the present study) stresses on the direct need to manage waste, or advocate the institution of measures that generation of waste or is its effective integration into recycling or reuse schemes that maintains material flow loops. It is finally reported that the water samples in the seven industrial areas, as they are highly polluted, there is need to formulate

strategies to avoid water pollution, this keeps the human health and wealth in maintaining proper healthy conditions.

Table-1: *Comparison of the concentrations in the sampled areas with Indian Standards*

Sl. No.	Parameter	Unit	1	2	3	4	5	6	7	IS:10500 Desirable limit
1.	pH		7.41	6.74	7.80	7.58	5.02	8.88	8.7	6.5 to 8.5
2.	Turbidity		8.5	14.8	6.2	3.1	6.5	4.7	10.3	5
3.	TDS	mg/1	864	736	2004	2952	1472	2044	1424	500
4.	Chlorides	mg/1	284	227	510	673	425	503	418	250
5.	Sulphates	mg/1	140	140	600	1200	190	580	180	200
6.	Nitrates	mg/1	43	40	63	86	52	64	49	45
7.	Fluoride	mg/1	2.2	2.3	2.8	2.9	3.0	2.4	1.9	1.0

Note: *Each value represents the mean of three replicates.*

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