

Human Health Implications Due to Water Toxicity by Pulp and Paper Mill

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ABSTRACT This was a case study to observe the environmental pollution of pulp and paper mill with respect to human health problems. A pulp and paper mill namely Vamasdhara at Srikakulam (Andhra Pradesh, India) was visited for observation, data collection and sample analysis for various pollution parameters like *pH*, suspended solids, total solids, COD and BOD. Samples were collected from different units (viz. black liquor from slant screen, brown stock washers (BSW)-1, paper machine back water, thickner filterate, inlet to effluent treatment plant (ETP_{in}), outlet to effluent treatment plant (ETP_{out}) or final discharge) of the mill. Five samples for each site analyzed in duplicate and averages were taken. General health information of a total of 135 mill workers was also observed and obtained through questionnaire/ interview schedule. Mill has high pollution parameters. *pH*, suspended solids (g/l), total solids (g/l), COD (Mg/l) and BOD₅ (Mg/l) for inlet and outlet to ETP are respectively 7.85, 1.83, 7.96, 1744, 686 and 8.3, 1.25, 4.63, 546, 329. Environmental toxicity specially water toxicity due to some of the hazardous pollutants have more effect on health. Hair loss from hands and fingers without nails (partially and fully) and other dermal problems like rashes and itching on hands were noticed in 9 out of 15 workers at secondary fibre recovery plant of the mill. Improvement in design, processing and advancement in eco-friendly technology will not only improve the productivity of mill but the community health also through better utilization of resources, waste disposal and water treatment generated by pulp and paper industry. Further intervention and research is required for development of water supply surveillance and strategies for improvement in environment and community health.