

# ANALYSIS OF HOW TO CONTROL THE POLLUTION DUE TO WASTEWATER FROM TEXTILE INDUSTRY

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The textile and garments industry is the largest industrial sector in Sri Lanka. Direct and indirect employments in these industries are estimated to be over 500,000. The textile industry manufactures finished cloth from imported raw materials. Manufacture of finished cloth from raw fibre (cotton and synthetic) involves 3 major operations as, spinning, weaving/knitting and finishing. Spinning and weaving are essentially dry processes and cause therefore relatively minor pollution problems. Significant pollution problems are, however, caused by the various finishing operations, including desizing, washing, scouring, mercerizing, bleaching, dyeing/printing and various types of final treatment processes. The finishing processes consume large quantities of water producing substantial volumes of liquid waste, which is a significant source of water pollution in Sri Lanka.

The textile processing industry in Sri Lanka is probably the 2<sup>nd</sup> largest polluter after the natural rubber industries, which jointly generates a liquid waste load of about 45,000kg COD/day (Industrial pollution control guidelines from CEA). This wastewater contains various compounds, which are harmful for the aquatic environment and are toxic for human and animal in cases of ingestion or physical contact. Textile processing wastewater contain oil, dye and biodegradable organic compounds, which may cause anaerobic conditions in receiving surface waters, resulting in die off of fish and other water organisms and emission of foul odours.

Wastewater treatment systems of textile processing industries generally consist of biological and/or physical/chemical treatment processes, or combinations of these processes. After these processes the treated water discharges to the nearby stream. The chemical and bio sludge resulting from the process are subjected to drying on a sand bed and then discharges without further treatment (normally used for land filling).

The aim of this research is to analyse how to control and minimize the pollution due to this wastewater & sludge discharge. The production of waste from textile processing operations can be prevented or reduced by numerous different measures. Such measures include replacement of toxic process by less harmful chemicals, process modifications and good housekeeping practices. Similarly the sludge also can be analysed for the harmful substances and we can find methods to treat them.