

IV.B.5. Recycling of Industrial Effluent - A Case of Distilleries and Chemicals

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Industries which generate huge quantities of waste water include sugar, chemical, textiles, paints, perfumes, plastic, cement, leather manufacturing etc. Till recent years these industries to satisfy the conditions of Pollution Control Board, treated the water to a minimum tolerable standards and let it out in the water courses. They have not attempted to recycle it either due to non-availability of technology or non-viability. It must be realised by the industries which produces pollution that though the pollution control costs of any project requires huge investment, the long term implications would more than compensate the cost incurred. One way of controlling pollution is through recycling the waste as it requires treatment of wastes and hence sufficient amount of pollutants could be controlled. In this paper, an attempt has been made to bring out a successful case of Distillery industry which has successfully installed the pollution control devices with crores of investment to treat the effluent and also successfully recycles the treated effluent for bio-compost, ferti-irrigation and for horticulture.

Tiruchy Distilleries and Chemicals Limited (TDCL) produces variety of chemicals and also produces alcohol from sugarcane molasses. It has the capacity to produce 50 KL of alcohol per day and the Effluent produced ranges between 750 KL to 800 KL per day for that capacity. Initially they were letting the effluent in the river courses but after the strict stipulation of the Pollution Control Board, they have installed an effluent treatment plant with the cost of Rs. 3.5 crores. The effluent is treated in three stages and recycling is seen in three forms - Electricity generation through methane gas, Bio-compost blended with Municipal garbage and Ferti-irrigation to horticulture farm.

The three stages of treatment include, Anaerobic Digestions System in which 50 per cent of the waste is being treated and the second stage is called anaerobic reaction in which the methane gas is converted into electricity and decolorisation is also done and in the final stage is called aeration in which the treated effluent is further treated to reduce the BOD content from 35000 to 40000 PPM to 350 PPM. The treated effluent which is called "sent wash" is recycled in the above mentioned ways. Only part of the spent wash is directly used as ferti-irrigation and the remaining is transferred to the solar evaporation ponds created for the purpose in the city outskirts and it is let for evaporation. Soil tests are being made repeatedly to test whether there is any seepage and damage to water and soil sources and found that there is so far no damage. The paper discusses in detail about the process of effluent treatment, the cost involved both fixed and recurring, its sustainability and viability, the benefits occurred through the recycling of treated effluent in the form of bio-compost, horticulture and the like.