

Paper Mills in Vapi and Environment

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Indian Pulp and Paper Industry was in growing stage in 50's and 60's. The location for the mills for manufacture of Paper/Board/Newsprint was mainly hinging on closeness to rivers. The water consumption per tonne of those years was quite high at 400 cu.m. tonne level. There were no pollution control boards and hence untreated effluent could be let into the rivers by the mills. People living close by the mills and even utilising the river did not object to this practice. Getting employment opportunities and improvement of standard of living for themselves were the main objectives. Hence most of the green field paper mills that came up in 50's up to 70's were located within 3-4 kms of the river bank. After the pollution control board came in early 80's and the public also became aware of the after effects of pollution all the and Paper Mills had to take immediate step for pollution abatement. Before planning new green field mills or expansion/modernisation of existing mills pollution abatement was given the top most priority. Location of green field mills had to be far away from the rivers and expansions were allowed only if the project took care of pollution abatement.

The town of Vapi about 40 sq. kms in area abounds in paper mills. About 45-50 paper mills manufacturing Kraft, Writing and Printing, Duplex Board and Newsprint varieties of Paper are located in the Industrial Estate of Gujarat State Industrial Development Corporation (GIDC). These mills convert the waste into wealth by utilising as raw materials Indigenous and Imported waste paper. Just as in countries like U.K. the paper manufacturing units are located amidst thickly populated area in Vapi town. All the industries located here have enrolled themselves in Vapi Industries Association which is a separate entity and cooperative venture promoted by the member units of Vapi estate.

GIDC supplies water, power (through Gujarat State Electricity Board) and land encouraging all types of industries to grow in this area. Further from 1996 a Common Effluent Treatment Plant, India's largest of its kind was set up with an Installed capacity of 55 million litre/day. The plant has since been commissioned on 17th January and is operating since then and provide treatment to entire liquid effluent generated by the industrial sector of Vapi estate. From Dec. 1998, the

facility of CETP has been extended to provide treatment to commercial waste/sewage of domestic sector to the Vapi industrial township also and current treated combined waste water on an average of 42,00 m³ per day.

The total water treatment scheme of Vapi Estate involves collection, Conveyance of partially treated industrial effluent through 90 km of Underground piping grid laid in estate by GIDC and with the help of Four pumping stations. The entire volume of liquid effluent generated by industrial, commercial and domestic sectors is sent to CETP for Treatment prior to final discharge. The treatment provided at CETP is aimed at removing suspended solids, BOD and COD to limits of 100 ppm ss/100 ppm BOD and 250 ppm COD before final discharge. The treatment process is based on "Activated Sludge Process". The complex composite effluent from over 1300 units, over 80% being in micro/small and medium scale units, (657 being member units with potentially polluting nature of effluent) and about 12000 m³/day sewage from non industrial sector, is treated with the microorganism developed and maintained with fine tuning of Feed to air ratio in agitated aeration with activated sludge.

The CETP removes on an average of 70 tonnes per day of total organic load and about 30 tonnes of suspended solids from the effluent thus preventing the pollution of surface water. The entire system has ensured that top soil, subsoil, water bodies and surface water are prevented from pollution from sewage as well as industrial effluent. Pollution control at individual level is mandatory, however for proper functioning of CETP it is necessary to monitor this and round the clock monitoring of entire estate's liquid effluent handling system by company's specially trained staff help keep check on the quality of effluent discharged into underground conveying system. Pollution abatement is given more importance over pollution control. The effect of these steps in last three years has made substantial improvement in reduction of water consumption per unit of production, reduced waste generation and thus helped offset cost of environment management. The success of concept has also made qualitative change in attitude of industry towards their social responsibilities and the

result is that the contributing members have readily agreed to extend the treatment facilities for sewage without charge and even cost of supply of water from GIDC's to near by villages is also shared by industry. Another very positive aspect is that past hostile attitude of general public has softened with such genuine concern expressed by industry and its result oriented programme implementations. There is a growing acknowledgement that it is possible to have commitment and responsible work ethics.

The paper units pay for the water as per the meter provided by Gujarat state Industrial Development Corporation. The volume of effluent is approximately

95% of the water intake and the industries are charged by the CETP as per volume of BOD and COD discharged. VIA has formed a separate entity, a cooperative venture promoted by the member units of Vapi Estate - Vapi Waste & Effluent Management Company Limited - a company limited by Guarantee by members, with specific task of comprehensive management of environment of Vapi estate. The beneficiaries Industries Units are members of the company who share the capital costs and cost of operations as per agreed formula formulated and decided by the General Body. Thus VWEMCL is founded on Cooperative Participation model with A Corporate culture of Management.