

II.A.3. Water Reuse within Chennai City: A Study of Wastewater Reuse as Cost Saving Device in MFL

N. Rajalakshmi

Principal Investigator, Madras University

Waste water can be put into economic use since it has got various types of reuse application. Industries especially in metro centre like Chennai by treating and reusing the wastewater for industrial purposes are able to reduce cost of production. The crucial resource water is also conserved as waste water reuse reduces sewage discharges into surface water and stream.

Madras Fertilizers Limited (MFL) is a public sector company with the plants built at Manali near Madras, consisting of a 750 MTPD (Metric Ton Per Day) ammonia plant, 885 MTPD urea plant and a 2000 MTPD KPK (Nitrogen Phosphorus Potassium) complex plant in 3 trains. The company engaged in urea and NPK fertilizer production commenced commercial operation from 1971 and has been consistently successful in productivity and efficiency. Availability of water has to be recognized as one of the vital requisites for the MFL expansion project. MFL has rightly planned to overcome this constraint by planning for tertiary treatment plant to handle 4 MGD (Million gallon per day) of the city sewage water available from Kodungaiyur sewage treatment plant. This problem of pollution and water shortage can be simultaneously resolved by reuse and recycling of wastewater.

The study focuses on the wastewater treatment and reuse as the solution to overcome the problems of water scarcity for industrial uses. Further it also tend to analyse the MFL reuse has been evaluated. In Madras city is divided into five sewage zones with facilities for collection and pumping sewage to the treatment plants located at different places on the outskirts of the city. Sewage from zones I & II will be pumped to the two treatment plants of 17.5 MGD each situated at Kodungaiyur located at about 4 kms from MFL plants at Manali. MFL uses the sewage from zone I for tertiary treatment. The fertilizer industry requires large quantities of water which is scarce. To overcome this problem scarcity, wastewater can be treated and reused. Hence it has been decided to study the wastewater treatment operations of Madras Fertilizers Limited (MFL).

The need and theme of the study lies in the fact that it has got socio-economic implications. Proper wastewater disposal and wastewater reuse saves water resource, helps to overcome the problem of scarcity, controls pollution and saves human and marine life.