This study is an attempt towards ecofriendly solution for the large scale problem (effluent) prevailing due to the operation of textile dyeing units. It is focused on the isolation of dye decolorizing microorganisms (Bacteria) from contaminated soil of industrial areas of Tiruppur district, Tamil Nadu, India and the ability of these isolates to degrade the chosen commonly used dyes (reactive and disperse group of dyes). The success of the treatment process is based on the subsequent usage of the treated water for irrigation and other life supporting activities. It is known that microorganisms (especially bacteria) that are under constant exposure to the synthetic chemicals can be used against the textile industry polluted waters. Accordingly, reactive and disperse group of dyes have been screened for decolorization by two groups of novel isolates (groups of 23 and 46) from two industrial estates. A few bacteria from the isolates were identified to be potent enough for commercial application. It has been demonstrated that Reactive black HFGR and Disperse Red F3BS have undergone breakdown from their native structure to a colorless form by the action of these bacteria.

The chosen organisms were subsequently employed for the decolorization of the effluent and the results were compared with the prevalent chemical treatment followed by the industries. The sludge after chemical treatment is detrimental when disposed off. The effluent was treated by novel isolates and the treated effluent was used for irrigation of two crop plants (Brassica nigra and Cyamopsis tetragonolobus) as sample studies and their growth parameters were compared with the chemically treated and raw effluent. Results revealed that raw effluent and the sludge of the chemical treatment had adverse effect over growth parameters in both the plant systems. The biologically treated effluent water
promoted normal growth of the plants as that of the control ground water. The present study suggests that ecofriendly alternatives are available to combat the anthropogenic pollution and that it is the need of the hour to explore those possibilities to prevent further deterioration of our environment.