Abstract

Industrial pollution is the main factor causing degradation of the environment, affecting the water, the air and the soil. But of these, water pollution is arguably the most serious threat to human welfare. Many laws and regulations have been framed from time to time to control environmental pollution, but the situation is far away from satisfaction. Thus a strong need arises to scrutinize the pollution abatement methods in the lime light of cost analysis. It is also important to assess the fiscal instruments of controlling pollution and to examine which regulatory system is more cost effective for India. Need also arises of an empirical study of role of informal regulation and community pressure in monitoring and implementation of pollution prevention measure. And, it is also important to examine the effect of pollution control on the productive efficiency of firm. Very few studies have been carried out so far to analyse the pollution abatement process with different aspect for Indian pulp and paper industry. The present work is a modest attempt to bridge this gap.

The result reveals that the variable elasticity models do not explain observed behaviour better than constant elasticity specification. Marginal Abatement Cost (MAC) varies across different plant levels, pollutants and abatement rates. And there exists strong scale economies. The tax rate is determined by taking the most inefficient firm as the representative firm for the whole industry. It is also observed that a full emission charge system is comparatively more cost-effective than the prevalent regulatory system. Community variable found as the significant determinant of pollution discharge behaviour of the firm along with the formal regulation. Further it is also found that estimates of technical efficiency, scale economies and the shadow prices of bad output are sensitive to environmental regulation.

It is observed that MAC rises as, more and more of the pollutants are removed. Thus the chosen environmental standard does not yield efficient solution. Introduction of tax may be an efficient solution. As the MAC of small plant at each case is higher than large plant, the opening of common effluent treatment plant is suggested. However, the policy should not be implemented with a revenue maximising goal.

Key Words: Abatement, MAC, Productive Efficiency, Full Emission Charge System, and Current Regulatory System