

III.A.1. Indirect Costs of Water Pollution Abatement: Some Estimates for a Cluster of Small Scale Factories in India

B. N. GoIdar

IEG, Delhi

While environmental economists and policy makers have almost exclusively focused on the direct costs of pollution abatement, there are substantial indirect costs associated with the pollution abatement activity which is manifested in a productivity loss for industrial firms much above the direct costs of abatement. This paper is concerned with indirect costs of water pollution abatement. Such costs can arise for a firm for a number of reasons: (1) loss of scale economies in the main plant since the firm has to devote a part of its invisible resources for the abatement plant, (2) changes in the input-mix in the main plant and/or additional investment in the main plant to keep the O & M cost of the abatement plant low, (3) technical problems in the abatement plant that may occur from time to time leading to interruption of work at the main plant, and (4) a part of the managerial/entrepreneurial input being devoted to not directly-productive activity of managing the abatement plant and taking care of various legal and procedural aspects of environmental regulations.

The paper presents some estimates of indirect cost of water pollution abatement for a cluster of small scale factories in Nandesari industrial estate in Gujarat. A production function was estimated for the sample firms in which the level of abatement activity is incorporated as an argument. Using the production function, an estimate was obtained of what would have been the value of production of the sample firms in the event they were not required to undertake any water pollution abatement. This is compared with the actual value of production of the firms to get an estimate of the productivity loss. The estimated loss in productivity is then compared with the estimate of cost of abatement based on an estimated abatement cost function which yields estimates of indirect cost of abatement.