

CHANGE IN INDIAN INDUSTRY DUE TO ENVIRONMENT POLLUTION: GROWTH AND STRUCTURAL CHANGES

Dr. Sujit Kumar*

ABSTRACT

India is one among the few top countries where industrialization is taking place at a rapid rate. This status of industrialized nation is an outcome of deliberate and conscious planning, especially from second five year plan onwards. To achieve still higher growth and more real benefits out of industrialization, India is moving more rapidly on this selected path, by liberalizing the economy in 1991. However, how far this race on the path of industrialization helps Indian Economy in the long run, is an issue to be examined. This is because rapid industrialization may affect the quality of environment, if it is not properly regulated. Industrialization is an engine for economic growth. Economic growth implies an increase in output of goods and services generated by economic activity. It is also true that industrialization is creating a high-risk environment. Because, rapid development of technical and socioeconomic changes on a large scale, due to greed of the rich people or / and need of the poor people causing environmental deterioration. If the structural changes that are taking place in the industry over time are in favour of pollution intensive industries and if they are growing very fast, in the absence of effective pollution control measures, there is a need for deliberate attempts to make the industry environment friendly. This study attempts to examine the effectiveness of the functioning of PCB's in monitoring the industries indirectly by assessing the status of environment at various places in India using the information drawn from secondary sources.

Keywords: Environment, Degradation, Deterioration, Economic, Development, Structure, Technology.

Introduction

Industrialization causes environmental degradation. The extent of environmental deterioration depends on the size of the industry, its structure, growth, adopted technology and government policies. Many studies indicate that Indian Industry experienced drastic changes in its structure and growth over the past fifty years. The industrialization causes environmental degradation. The extent of environmental deterioration depends on the size of the industry, its structure, growth, adopted technology and government policies. Many studies indicate that Indian Industry experienced drastic changes in its structure and growth over the past fifty years. Depending on the nature of changes the whole period can. But the studies in this direction are very limited. The present study aims modest attempt to analyse the structural changes and growth pattern of the Indian industry in relation to pollution intensity, to suggest, whether there is a need for regulation of the changes that are occurring in the Industry, or it can be left free to the economic forces, that determine the growth of the economy. It is well known that pollution intensity varies from industry to industry. For all the industries, well-developed technologies are also available to control pollution. In India there are central and state pollution control boards to monitor the installation and operation of the pollution abatement equipment of the various industries. Basing on this, it may not be appropriate to draw a conclusion that, industrialization will not be a problem for presenting the environment. It is also true that, industrialization will not cause serious environmental pollution, it is possible only when the pollution control boards are functioning effectively in monitoring the implementation of the pollution control methods by all industries.

* Assistant Professor Department of Zoology, Allama Iqbal College, Bihar Sharif, Nalanda, Bihar, India.

Industrialization – The Major Source of Pollution

Though economic growth is the concern of policy makers and economists, now a day every individual is paying attention to this problem. History showed that, rapid economic growth has been accompanied by greater industrialization. Industrialization is a system of economic development. In this system, the major part of the national resources is used to develop a technically up to date, diversified national industry. This industry is capable of assuring a high rate of growth for the economy as a whole. And also help to overcome economic and social backwardness. On the contrary, this process also involves production of waste, which has no market. As the waste has no market, it is simply thrown into the environment and this is the root cause of environmental pollution. Environmental pollution is a negative externality in welfare economics. The type and extent of the pollution varies from industry to industry. An attempt is being made to explain briefly, the type of pollutants released by various industries and their likely impact on environment and health, using the information drawn from secondary sources. An attempt is also being made to present a brief review of the studies on industrialization and pollution in some of the East Asian Countries. This helps us in assessing how the industrialization causes environmental degradation.

Environment Degradation

Environmental degradation may be defined as degradative changes in the eco-system, which are habitats of all life on the planet. In terms of economics, environmental degradation is an outcome of maximization of profits, ignoring external costs. Both consumers and producers are accountable for environmental degradation. According to Lester Brown, (1986), as human pressures build, the relationship between people and their natural support systems can cross key thresholds, leading to a breakdown. So, policies that are economically successful in short run, can be ecologically disastrous in the long run. The prime connecting link between industry and environment with regard to degradation is "Generation of Waste". The industries produce huge quantities of goods and services by using raw materials and fuels as inputs. In this process, they contribute to environment deterioration by creating waste as by-product. The wastes that cannot be absorbed or assimilated by natural environment are known as pollutants. These are the root cause for pollution. The amount of pollution released in the production process depends upon the size of industry as well as technology that is under use. If the technology is dirty, the problem of pollution will be much intensive. As the eco-system follows a confined pattern, there is a cyclical flow in this system. For instance, the wastes generated by animals are inputs to plants, while plants are food for animals, etc. But the waste generated by modern techniques, most of them are not being assimilated or decomposed by the environment and hence have become dangerous to living beings and ecological systems in various modes viz.. air pollution, water pollution, soil pollution. These pollutants on a wider scale, for a long time, create problems like genetic mutations, global warming, acid rain, depletion of ozone layer, climatic change and finally imbalance in the eco-system. In this way the process of industrialisation in the absence of proper regulation leads to environmental deterioration. If irrespective of the outcome, consumers and producers kept exploiting such a precious and non renewable environmental quality, then a day will come, when the preservation of such resource will be impossible. And this will not allow the present and future generations to live with peace and harmony, with physical environment, wherein man is just a part.

Structural Changes in the Indian Industry

Industries have medium pollution intensity and generate high solid waste are machinery and equipment, transport equipment and metal products. Whose share is below one per cent in terms of size indicating variables and between one and eight per cent in terms of pollution intensity indicating variables. Industries with relatively less pollution intensity and load in the Red industries group are beverages and tobacco products and other manufacturing units. Whose share is, also less than one per cent. Structural changes in the industry are studied to assess its impact on environment. Therefore it is more appropriate to draw the conclusions on the structural changes basing on the variables which are more closely related to environment viz., capital invested, fuels consumed, materials used and total inputs used. Basing on these the foregoing analysis shows that the dominant industries in the Red industries group at the two-digit level of classification are food products, electricity generation and distribution, chemical products and basic metals and alloys. Over a period of time, the sizes of chemical industry and electricity generation is increasing and the size of food products is decreasing, while there is no significant change in the share of basic metals and alloys industry. Indian industry is dominated by the most pollution intensive and load generating (Red) industries, and the structural changes that took place during the period 1973-74 to 1993-94 are in favour of pollution intensive industries and against Green

industries. Among the Red industries group, the most prominent industries at the two-digit level of classification are food products, chemicals products, electricity generation and distribution and basic metals and alloys industries. Among these four, the highly pollution intensive industries are chemical products and electricity generation and distribution. The size of these industries is increasing over time. Thus, the structural changes that are taking place in the Indian Industry are in favour of most pollution intensive industries. Unless proper pollution control methods are adopted, industrialization in India poses a threat to the environment. As per the changing phases of industrialization with economic growth, approximately India is in the second phase. During this phase the highly pollution intensive industries will dominate. The experience of many countries shows that, in the next phase (i.e., third phase) medium pollution intensive industries will come up as a result of technological changes. So, the movement from second phase to third phase, requires a deliberate policy pertaining to effective pollution control and technological development.

Position of India's Environment

In this section we furnished the information regarding the status of environment in different parts of the country, with this information, an attempt has been made to trace out the relation between industrialization and extent of pollution in India. With which we can examine effectiveness of pollution controlling and preventing methods adopted by pollution control boards. The challenge before the country is, to preserve its environment, to keep intact the capacity of the already overburdened land, to feed its growing population and meet the basic energy needs without hampering the future necessities. It is a tough but not an impossible task. The experience of past years of development planning has not been considered seriously the quality of environment in its plans. But consciousness is growing that; development cannot be lasting if natural resources are continuously polluted. Pollution is caused in India by waste generated by different source urban, agricultural and industrial sectors. Due to which, most of the ground waters, surface waters except in mountain areas, air and soil are polluted. The general information about pollution may only give us the overall status of pollution and general effects on environment. But an area wise observation of pollution levels at different places in different points of time and their impact on various life supporting systems will give us a dear picture about the extent of the pollution problem and the effectiveness of PCBs in controlling the pollution and its related problems. Some of the major foci of industries (which produce potentially toxic and hazardous waste) are Delhi, Mumbai, Kolkata, Ahmedabad, Barcxa, Hyderabad, Visakhapatnam, Bangalore, Chennai, Cochin, Gujarat etc. Following is a presentation of state of environment at various places, based on the information drawn from various secondary sources. Thus, there are severe pollution problems in many parts of the country. These problems further intensified by the dumping of solid waste. It indicates that, the various pollution-controlling acts and their implementing agency i.e. PCBs are not very effective in controlling the pollution. Therefore, it may not be appropriate to draw the conclusion that industrialization backed by pollution controlling policies will not pose any environmental problems.

Role of Central Pollution Board in Helping Industries to Change

The Central Pollution Control Board of India (CPCB) seeks to prevent and control pollution, which is generated by industries and other human activities in India. If the operations of the CPCB are effective, irrespective of the pattern of industrialization and industrial growth, industries may not pose environmental problems. Therefore, there will not be any need to worry about the pattern of structural changes in terms of pollution intensity in the Indian industry. If CPCB foils on this front, regulating the structural changes in the industry through plans assumes a greater significance in controlling industrial pollution. There is very little information available for examining the effectiveness of the PCBs in controlling pollution. To observe this, an indirect attempt has been made to examine the effectiveness of CPCB by examining the status of environment in India. The information drawn from the secondary sources are used for this purpose. Before this an attempt has also been made to give a brief account of the pollution control acts and the operation of CPCB. The CPCB is entrusted with the task of laying down standards in order to harmonizing the activities of its counterparts in states. It also performing the role of state pollution control board in the case of union territories. For the implementation of pollution control measures in polluting industries, CPCB evolves an industry's specific pollution control strategy based on the comprehensive industry document regarding size, number, inputs, investment etc. Accordingly, CPCB will fix the Minimal National Standards (MINAS) for discharge of different kinds of pollutants. An Industry committee, Industry Association, Indian Standards Institution etc, continuously guides this document.

The state PCBs will monitor and regulate environmental pollution with the guidelines given by CPCB. These boards will take up environmental impact studies and hold public hearings for clearance of projects. State pollution control boards also take up, the responsibility of monitoring the execution of operating any agreement signed by the government of India in the protocols and international conventions. Apart from these general functions, these boards will take up many functions assigned under different acts. They are the functions pertaining to Water Pollution (Prevention and Control) Act, 1974; Air Pollution (Prevention and Control) Act, 1981 and Environmental Protection Act. 1986

Conclusion

Industrialization along with the generation of products, income and employment, generate various types of wastes. These wastes are released into air, water and soil. These wastes causing respectively the air pollution, water pollution and soil pollution, if they are untreated. Industrialization may also (sometimes) lead to the usage of natural resources at a rate higher than the rates of their replenishment. On these two accounts, industrialization causes environmental degradation. The intensity of the environmental degradation depends on the size, structure of the industry, technology and Government, policies. This is because; the pollutants released by the industries differ from industry to industry. This in turn is due to, the type of inputs used. Therefore, for formulating a policy for controlling the industrial pollution, there is a need to study the structural changes that are taking place in the Indian industry, the growth of various types of industries, the policies promoting industrialization and the effectiveness of the policies designed for controlling pollution. Within the Red industry, the most pollution intensive industries, viz., food products, basic chemicals and chemical products, basic metals and alloys and electricity generation and distribution industries together accounted for a share of almost 75 per cent In terms of both pollution intensive indicators (fuels consumed, materials consumed, and total inputs used) and size indicating variables (number of factories, number of employees, capital invested, and net value added). The dominance of these industries has been increasing over time. In the nineties, along with these industries some other industries like rubber, plastic, petroleum and coal products, non-metallic mineral products and machinery and equipment gained prominence.

References

1. Ahulwalia, Isher Judge (1989): Industrial Growth in India: Stagnation since the Mid-Sixties. Oxford University Press, New Delhi, pp. 18-25.
2. bumol. WJ and Oates. W.E. (1979). Economics. Environmental Policy, and the Quality of life. Prentice Hall of India, New Jersey, pp.76.
3. Doval, N.K (1992): Hevj Delhi: on the brink. The Hindu Survey of the Environment, pp.81-84.
4. Goyal, K.C. (1994): Industrial Management and Pollution Control. RBSA Publishers, Jaipur, pp, 39-40.
5. Hazari. R.K (1987): Industry in India: A Review of Performance, The Development Process of the Indian Economy (ed) by PR Brahmanand and VR Panchamukhi, pp 273-75, 289 and 290
6. Kelkar, Vijay L and Kumar, Rajiv (1990): Industrial Growth in the Eighties, Economic and Political Weekly. Jan 27, pp.212-213.
7. Mehta, M.C (1994):Taj Trapezium, The Hindu Survey of the Environment, pp.62-63.
8. Nilay Chaudhury (1992): Industrial Pollution Control Constraints and Conflicts, in Global Environment series (Environment Policy and Development Issue) ed. by C.V. Rajasekhara, Discovery Publishing House, New Delhi, pp.152.
9. Pordom. Walter P-and Anderson, Stanley H (1983): Environmental Science. Charles E. MeriU Publishing Company, Sydney, and pp.325.
10. Shetty. S.L (1978): Structural Retrogression in the Indian Economy since the Mid-Sixties, Economic and Political Weekly. Special Supplement, pp.8-9.
11. Surendra, V (1986): Indian Industries. B.R. Publishing Corporation, Delhi, pp.41-49.
12. Rajalakshmi, N and Birundha, Ohulasr (1994): Environomics: Economic Analysis of Environment. Allied PuWishere, Madras, pp. 213.
13. Yasuo,Shun (1977): Impact of Water Pollution on Agriculture and Fisheries in Japan in Environmental Pollution and Toxicology: Proceedings of International Symposium. November 28-30. 1977 ed by S.I. Rayachaudhuri and D.S. Gupta. Today and Tomorrow's Printers and Publishers, New Delhi, 1986, pp.95.

