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INDUSTRIALIZATION AT THE COST OF ENVIRONMENT DEGRADATION- A CASE OF LEATHER AND IRON AND STEEL INDUSTRY FROM PUNJAB ECONOMY

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ABSTRACT

In modern era, the environment has emerged as a major area of concern. Pollution is the major threat in most of the developed and developing economies. Indian Economy is a developing economy and passes through the different phases of development and growth. Indian Economy is also witnessing the environmental degradation because of the rapid growth of industrial sector. Punjab economy is a part of Indian economy. The scope of this study is limited to the industrialization of Punjab Economy. This paper investigates association between the industrialization and environmental degradation with the help of Environmental Input-Output Analysis (EIOA). For this purpose we have selected five major industries, whose contribution to industrial sector is substantial such as Textile/Hosiery/Readymade Garments Industry from Ludhiana, Leather Industry, Sports Industry, and Hand Tools Industry from Jalandhar, Iron and Steel Industry from Mandi Gobingarh

INTRODUCTION

In modern era, the environment has emerged as a major area of concern. Pollution is the major threat in most of the developed and developing economies. Indian Economy is a developing economy and passing through the different phases of development and growth. Economic development in India is also witnessing the environmental degradation.

No country, state or region can make progress on the basis of primary productive occupations alone, especially when such a region has a large and rapidly increasing population. To achieve higher level of income, higher standard of living, higher purchasing power, greater opportunities for employment and over all development, better, proficient and optimum use of natural and agricultural resources are vital. Punjab is predominantly agricultural state and economy mainly depends upon agriculture. Punjab economy is not only known for its agriculture production rather industrial sector is also playing an important role in the overall development of the Punjab. Punjab has highly developed small scale industries and has surplus of various small scale and other industrial and manufactured products such as bicycles, sewing machines, hosiery goods, sports goods, leather goods, hand tools and machine tools etc. The scope of this study is limited to the industrialization of Punjab Economy. This paper investigates association between the industrialization and environmental degradation with the help of Environmental Input-Output Diagram (EIOD). For this purpose we have selected two major industries, whose contribution to industrial sector is substantial such as Leather Industry from Jalandhar and Iron and Steel Industry from Mandi Gobingarh.

The environment of Punjab has degraded a lot during the last few years due to rapid urbanization, industrialization, increase in population, vehicles and commercialization of land available within the town. The main stationary sources of pollution are the industrial units, which are emitting certain particulatematter, sulphur di-oxide and oxides of nitrogen, **Noise Pollution, Hazardous Waste, Industrial Solid Waste, E-Waste etc.**

Figure 1 Environmental Input Output Analysis for Leather Tanning Process Shows the input and output. The input includes untreated hides and skins, Chemicals such as sodium sulphate, calcium hydroxide, ammonium sulphate, bleaching agents, tanning agents, base chemicals, dyes, water and energy. Major Outputs during the Leather Tanning Process are solid waste, air pollution, water pollution and large quality of waste sludge.

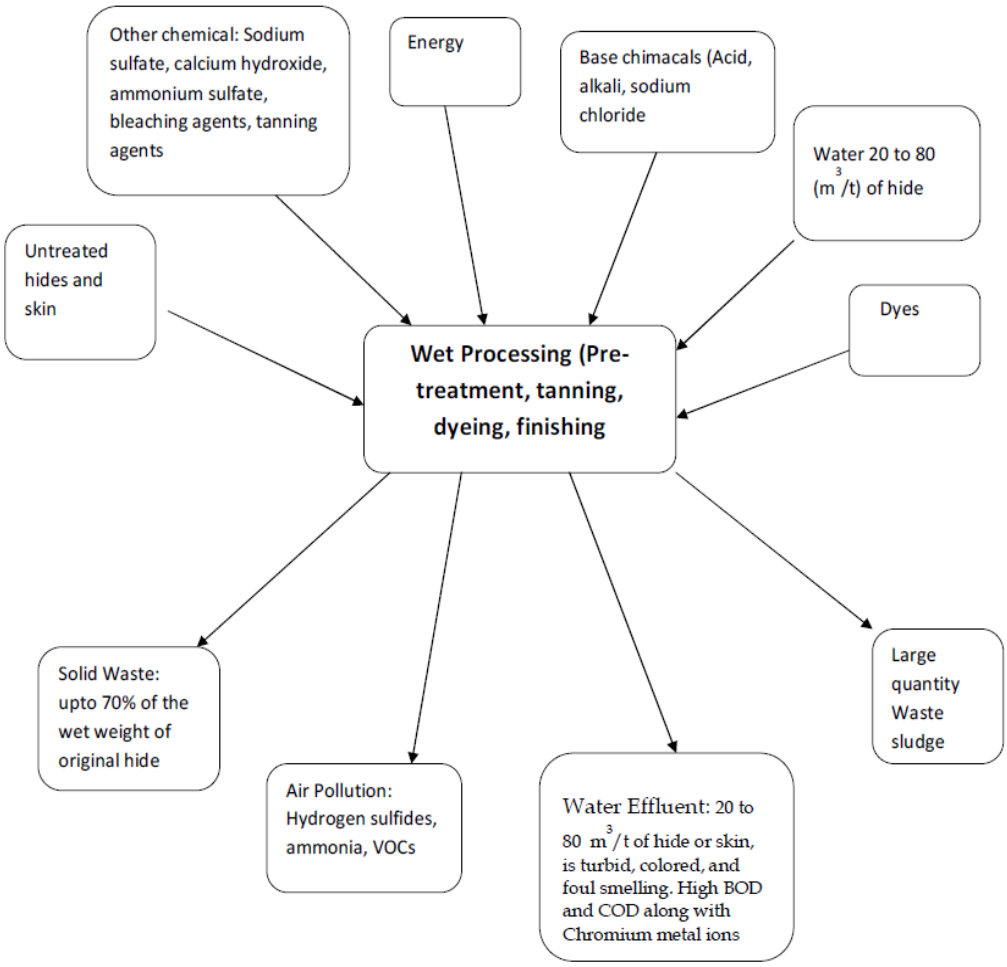

Figure 1 Environmental Input Output Analysis for Leather Tanning Process Source

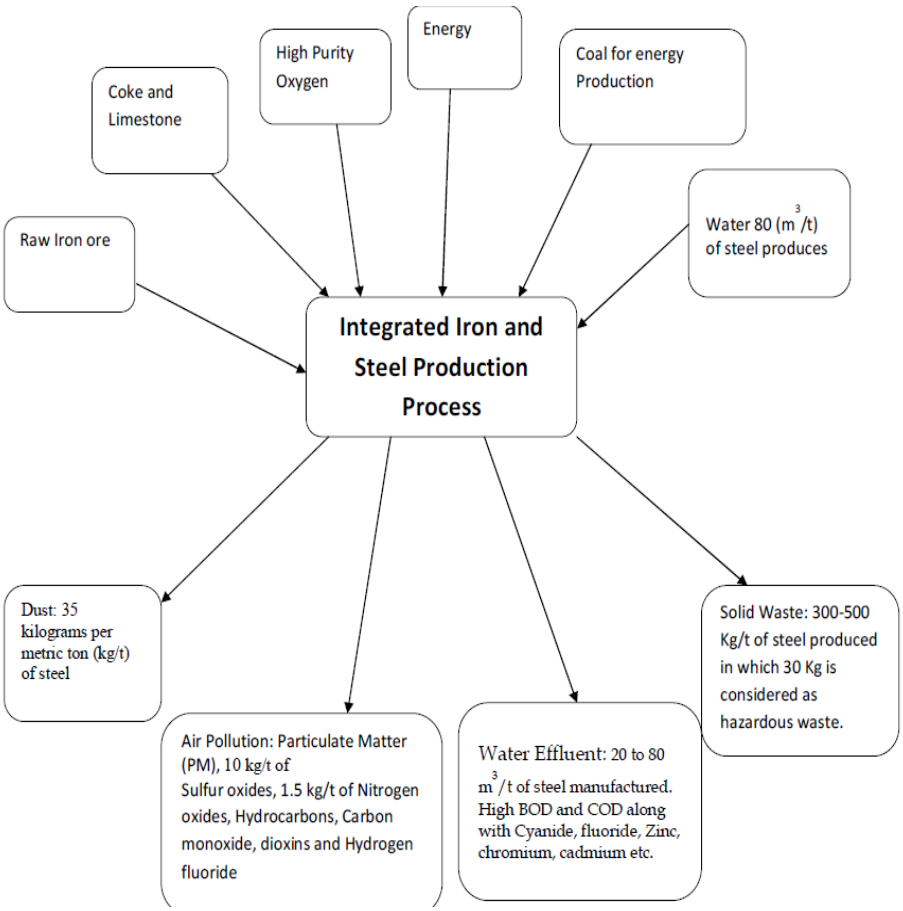

Figure 2 Environmental Input Output Analysis for Integrated Iron and Steel Production Process

Figure 2 Environmental Input Output Analysis for Integrated Iron and Steel Production Process Shows the input and output. The input includes raw iron ore, coke and limestone, coal, energy, water. Major Outputs during the Integrated Iron and Steel Production Process are dust, solid waste which is considered as hazardous waste, air pollution, water pollution.

As per the report of Central Pollution Control Board, the cumulative environmental pollution index has been observed to be 55.50 for water pollution, which falls under the category of severely polluted in respect of water environment. The higher level of the said index may be due to the presence of water pollutants due to non-installation of sewage treatment facilities and improper disposal of wastewater into drains by the Department of Local Bodies. The majority of the industries situated in Mandi Gobindgarh are of air polluting nature and not water polluting. As far as, water polluting industries are concerned, there are only 11 such industries. (Report: Punjab, Pollution Control Board)

The main pollutants in the effluent discharged by the industry are pH and zinc. There is only one Focal Point in Mandi Gobindgarh which has been developed by the Punjab Small Industries & Export Corporation (PSIEC). About 50 industries situated in this Focal Point discharge their domestic wastewater into the sewerage system provided by PSIEC. But most of the time, the sewerage system remains choked resulting into stagnation of wastewater in the vacant plots in the Focal Point.

Environmental Guidelines for Industries **(**Government of India,Ministry of Environment & Forests) No forest land shall be converted into non-forest activity for the sustenance of the industry (Forest Conservation Act, 1980).

- No prime agricultural land shall be converted into industrial site.
- Within the acquired site the industry must locate itself at the lowest location to remain obscured from general sight.
- Land acquired shall be sufficiently large to provide space for appropriate treatment of waste water still left for treatment after maximum possible reuse and recycle. Reclaimed(treated) wastewater shall be used to raise green belt and to create water body for aesthetics, recreation and if possible, for aquaculture. The green belt shall be 1/2 km wide around the battery limit of the industry. For industry having odour problem it shall be a kilometer wide.
- The green belt between two adjoining large scale industries shall be one kilometer.
- Enough space should be provided for storage of solid wastes so that these could be available for possible reuse.
- Lay out and form of the industry that may come up in the area must conform to the landscape of the area without affecting the scenic features of that place.
- Associated township of the industry mmust be created at a space having physiographic barrier between the industry and the township.
- Each industry is required to maintain three ambient air quality measuring stations within 120 degree angle between stations.

Conclusion and Suggestions:

This model is tried to provide a general framework to integrate input and output and environmental issues from the viewpoint of planning for pollution abatement industries. We analyzed the process of two major industries of the Punjab and find out that these industries create air pollution, water pollution, noise pollution etc. This is the social cost because these industries generate various negative externalities. Earlier Punjab economy was famous for her good environment and fertile land. But rapid industrialization has deteriorated the environment and created various problems related to health. We cannot stop this but we can try to reduce the environmental degradation with efforts and the polices provided by the Government of India mentioned above in this paper.

Industrialization cannot be separated from its environmental impact. Fast growth of production and consumption can create negative externalities such as increased noise and air pollution, road congestion and water pollution. Environmental damage can have a negative effect on our quality of life and limits our sustainable rate of growth. But the need is to minimise the social cost and maximise the social benefit. By the flows in the input-output framework, we have constructed an EIOA framework that can address the issue of material circulation in industrial sectors which will become a pressing concern as natural resources become depleted and urban infrastructures begin to turnover.

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