

3. INDIA (1)

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INTRODUCTION

India is the seventh largest country in the world, with an area of 3,287,782 Sq. Km. Punjab, at 50362 Sq. Km., encompasses only 1.5 % of the total area of the country and is the 4th smallest state. It is situated in the Northwestern part of the country. Punjab has a population of 20.28 million and is one of the most prosperous states in India.

Punjab has traditionally been an agriculture-dominated state. It was a partner in the Green Revolution. It has the highest yield of wheat at 3884 Kg/Hectare and rice at 3132 Kg/Hectare. In recent years, the region has been rapidly industrializing. There are presently 620 large & medium scale units and 200,000 small-scale units operating in various parts of Punjab State.

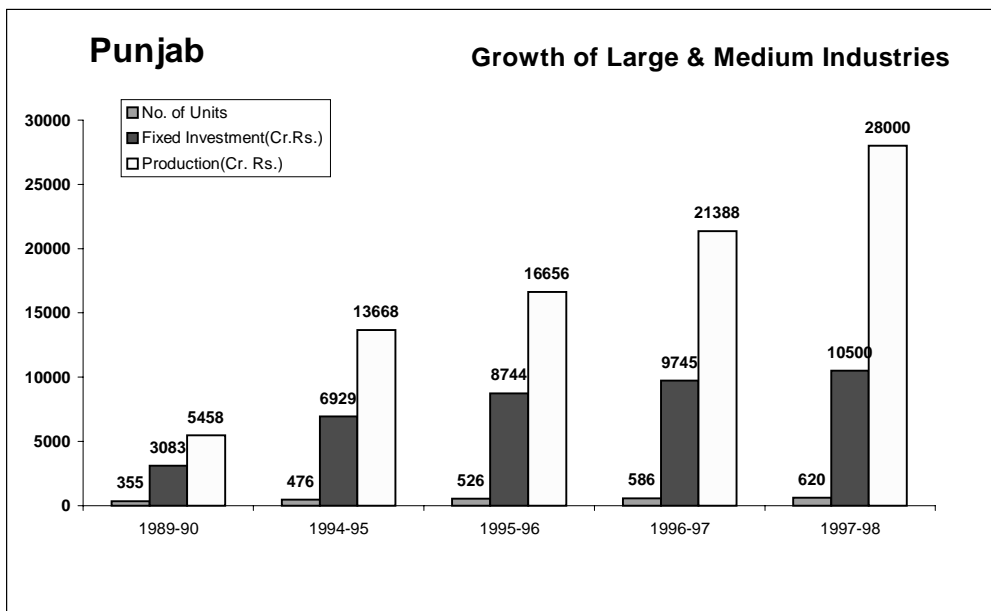


Figure 1: Growth of Large and Medium Industries

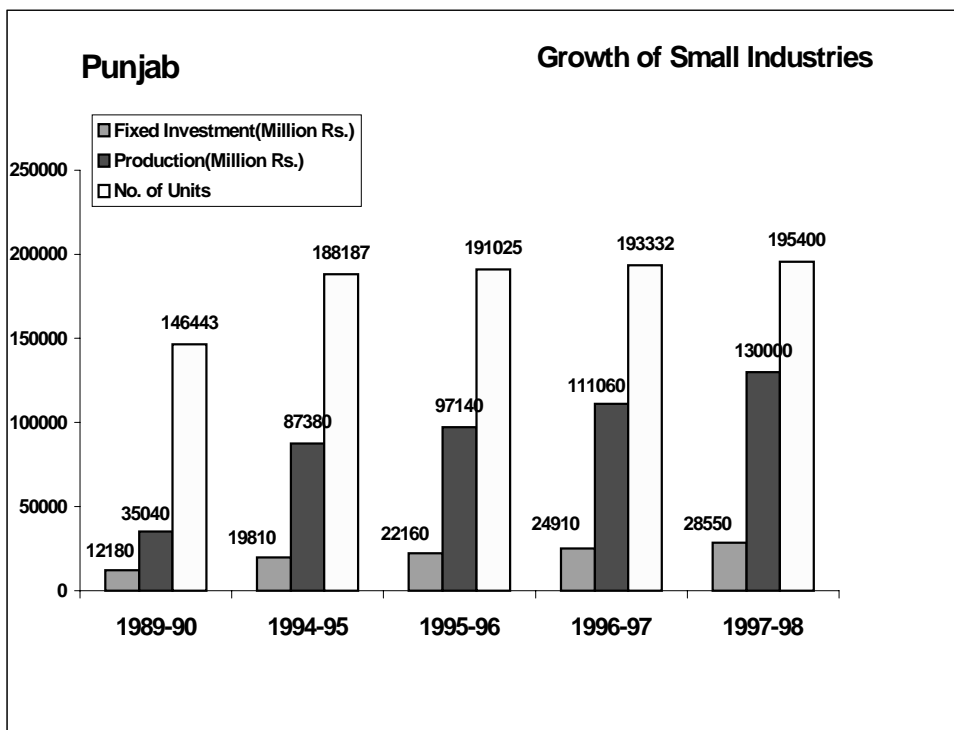


Figure 2: Growth of Small Industries

The major industrial towns of Punjab are:

- Ludhiana,
- Jalandhar,
- Amritsar,
- Batala,
- Mohali (SAS Nagar),
- Phagwara,
- Rajpura,
- Dera Bassi,
- Mandi Gobindgarh,
- Goindwal.

The major industries in Punjab are:

- Hosiery/garments,
- Cycle & cycle parts,
- Textile,

- Sport goods,
- Electronic goods,
- Auto parts,
- Hand/Machine tools,
- Chemicals & Pharmaceutical,
- Food Products,
- Leather & Leather goods and
- Rubber goods.

The export from Punjab has grown from 79.6 Million Rupees in 1990-91 to 47000 Million Rupees in 1998-99.

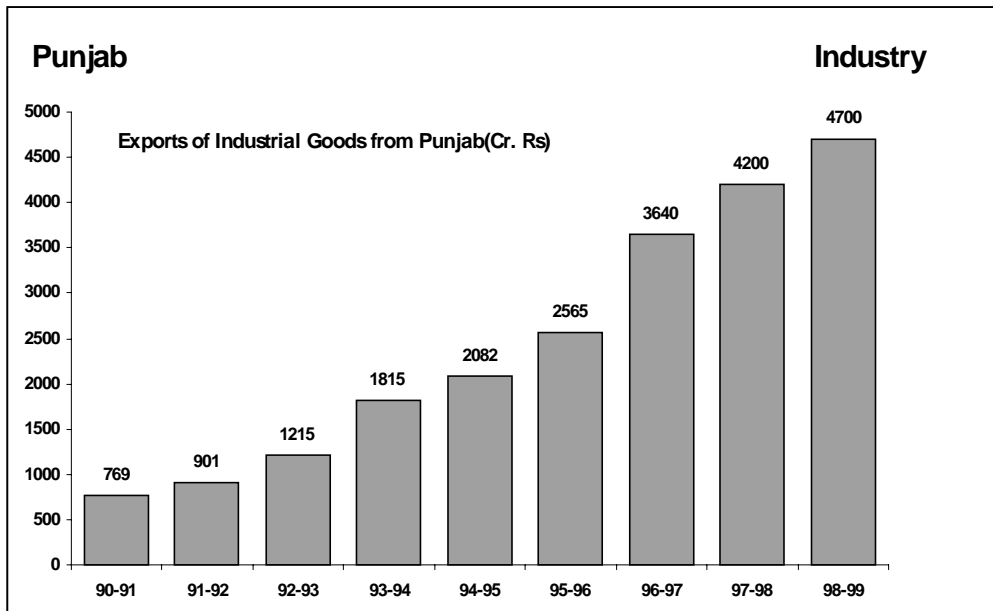


Figure 3: Exports of Industrial Goods from Punjab

The major items exported from Punjab to various countries are:

Table 1: Punjab Exports

S. No.	Major Items of Export	Countries	Value in Lakhs Rupees
1.	2.	3.	4.
1	Bicycle and Parts	All Over the world	30394
2	Hosiery and Ready-made Garments	Mainly USSR, Arabian Countries, Hong Kong, UK, Italy, USA, France, Malaysia & Singapore	52158
3	Sports Goods	USA, UK, Australia and EC	6319
4	Food Products	Middle East, USA, UK and Canada	55070
5	Leather Products	West German, Jordan, UK	8364
6	Hand Tools/Machine Tools	USA, Africa and Australia	40169
7	Drugs and Pharmaceuticals	USSR, Japan, UK Hong Kong, Korea, USA, France,	38324

The organizational set up in India for the environmental controls starts from the Ministry of Environment & Forests at the national level. The other important organizations at the national level are:

- **Central Pollution Control Board**- the premier policy-framing agency for the environmental controls.
- **National Environmental Engineering Research Institute, Nagpur**- The national level institution engaged in research and development in field of environmental pollution control.
- **National Level Research & Educational Institutions**:- similar to the Indian Institute of Technology, Central Universities, and University of Roorkee, B.H. University, Jadavpur University, Punjab University etc.

At the state level in Punjab, a Minister of Environment (Presently the Chief Minister) and State Department of Environment head the organization. Other important organizations include:

- The Punjab Pollution Control Board - The State entity that has been given the responsibility of enforcing the following environmental laws in State.
- The Water (Prevention & Control of Pollution) Act, 1974.
- The Air (Prevention & Control of Pollution) Act, 1981.
- The Environment (Protection) Act, 1986.
- Hazardous Waste (Management & Handling) Rules, 1989.
- Manufacture, Storage & Import of Hazardous Chemical Rules, 1989
- Bio medical Waste (Management & handling) Rules 1999.
- Manufacture, Use, Import, Export & Storage of Hazardous Micro-Organisms, Genetically Engineered Organisms or Cells Rules, 1989.

The Punjab Government mandates that Punjab Pollution Control Board exercise the powers conferred on and perform the functions assigned under the above-mentioned Acts & Rules. The board consists of a maximum of 16 members and a Chairman to head the board possessing the following qualification/experience:

“Chairman, being person having special knowledge or practical experience in respect of (matters relating to environmental protection) or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the State Government.”

Chairman is supported by a full time Member Secretary having the following qualification and experience:

“Possessing qualifications, knowledge and experience of Scientific, Engineering or Management aspects of pollution control, to be appointed by the State Government.”

The constitution of the Board is as follows:

- Official Members representing State Government - **Not more than 5**
- Official Members representing Local Authorities - **Not more than 5**
- Members representing the interest of Agriculture - **Not more than 3**
Fishery or Industry or Trade or Labour or any other interest.
- Member representing Company or Corporations - **Not more than 2**
owned by State Government.

Functions of the Board

The main objective of Punjab Pollution Control Board is to prevent, control, or abate water & air pollution and to restore wholesomeness of water and air quality. In order to achieve the above objective the Board performs the following functions:

- Pollution control Regulatory Function
- Pollution assessment
- Laying down standards for effluents & emissions
- R& D including setting up of demonstration plants
- Environment awareness program
- Advise the State Government
- Establishing laboratory

The following organizations have been assigned the responsibility of industrial development in the state of Punjab:

- **Department of Industries** - the highest policy framing body in the state.
- **Punjab State Industrial Development Corporation** - creates quality infrastructure, modernizes existing infrastructure, and develops partnership with industry. It offers attractive fiscal incentives and invites private investments in infrastructure thrust sectors.
- **Punjab Small Industries Export Corporation (PSIEC)** PSIEC acts as a catalyst and springboard for all round industrial development of Punjab. PSIEC facilitates the spirit of industry and provides self-sufficient industrial focal points.

With the objective of planned industrial growth, the state government set up Punjab Small Industries Export Corporation. The Corporation developed several focal points, industrial estates, industrial areas, industrial growth centers, industrial complexes, and free enterprises zones in the state. At present there are 25 Focal Points for Industrial Areas that are operational and another 26 approved by State Government for development. Another 6 Focal Points are under various stages of development.

The main purposes of developing these Industrial Development Corporations (IDCs) are:

- To check the scattered growth of the industrial activity
- To encourage the industrial growth within geographical locations centrally linked by transport, communication, water and power supply
- To facilitate the small & tiny units to avail the common facilities of the IDC
- To confine the industrial activities in restricted areas so as the growth is in environmentally friendly manner
- To serve as work places for people residing in the vicinity of IDCs
- To provide help to delimit the social hazards caused by specific industrial groups by providing Common Effluent Treatment Plant
- To promote inter-industry transactions within small units to encourage business environment
- To minimize the interference of the middleman
- To reduce and eliminate pollution created by industries.

With rapid industrialization, the environmental problems related to industry grew phenomenally. These industrial Focal Points/Areas have not been able to

effectively control the environmental problems related to the industrial sector. The concept of industrial estates development has successfully flourished, and reached similar progress as the States of Gujarat and Maharashtra have received. But In Punjab, in spite of best performance, entire industrial units could not be brought into these IDCs. It is estimated that only around 10% of the industrial units have been set up in IDCs. The remaining 90% are found scattered in different locations. Attempts are being made to attract many more industries into the IDCs by offering attractive subsidies and various incentives.

The main reasons for failure to attract these small & tiny units in to the IDCs are:

1. They are unable to sell their products as the IDCs are at a distance from markets.
2. In some of the IDCs, proper infrastructures are not available.

The task of bringing the small units into one cluster has many constraints. In order to bring the small units into these IDCs, Punjab state has formulated two pronged-plan strategies.

Incentives exist in the form of:

- Subsidies
- Soft loans
- Better infrastructural facilities
- Common effluent treatment plants
- Marketing facilities
- Controls exist in the form of:
- Licenses
- Siting restrictions

Controls are not only considered a negative approach, they are also difficult to enforce, on account of various constraints, which may defeat the purpose.

It has been seen that the industries allowed in IDC are heterogeneous in nature, ranging from simple inorganic chemical manufacturing units to industries manufacturing complex organic compounds, many of which are known to be toxic. Control of environmental pollution arising from the discharge of effluents required careful investigations and proper planning.

The important components in planning an IDC from environmental considerations are:

1. Location of industrial estate, size of industrial estate and number, sizes and types of industries to be allowed.
2. Proper grouping of industries so as to make combined treatment economical.
3. Classification of the industries based on compatibility of their wastewater.
4. Assessment of the volume and characteristics of the wastewaters from individual industries,

5. Assessment of the effect of discharge of treated waste waters on any of the available receiving agencies,
6. Establishment of the characteristics of pretreated wastewaters and final effluent from the common treatment facility.