Chapter -2

Genesis of Industrial Economy
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Industries since its inception have been playing most crucial role shaping, moulding, changing and incarnating the modern civilization. It holds the key of the development processes in different field with which all sorts of progress, advancement and new vistas of scientific opportunities are closely associated. The present day a civilization opportunity is interwoven with the degree of industrial attainment. One of the basic indicators of advancement of the present day world is considered to be the stages at which industries are found to be developed.

2.1. An Overview of Industrialization:

Development in the field of technology, the increasing interdependence of the major units of production, transportation and services, the changing character of the labour and the emergence of new economic and social problems have changed and will change further the environment in which industrial relations are shaped. Industrialization is the basic feature of the modern economic growth and intended to signify that only the non-agricultural industries display major rises in productivity. Advanced industrial countries are said to be experiencing their second or perhaps third industrial revolutions. The underdeveloped countries are said to be in the midst of a “revolution of rising expectation”, and on the verge of the early stage of a first industrial revolution.

Industrial economy has played a crucial role in the development strategy and particularly with regard to the objectives structural diversification, modernization and self reliance. The rapid progress in
industrialization accompanied by technological growth and managerial skill is essential not only for efficient operation of highly complex and sophisticated industrial enterprises but also for its planning, design and construction.

"Mankind has made a long march from the days of Adam as Keynes dates it to this age of automation and cybernetics. In this long march mankind has achieved a tremendous progress".\(^1\) History of Industrial development indicates that smashing of machines during the second half of the 18\(^{th}\) century culminating in the passing of Acts (1779) to control and prevent riots against the machinery and efforts of prohibiting the use of machinery in industry through legislation (1780) in England.\(^2\)

Although the study of industry by economists is as old as the study of economics itself,\(^3\) the term ‘industrial economics’ is of quite recent origin. It appeared for the first time into the literature of Andrews in 1950s.\(^4\) Importance to this the economic analysis of industry was not recognized a distinctive branch of economics in many quarters and given a variety of different names, such as, ‘Economics of Industry’, Industry and Trade’, Business Economics’, ‘Commerce’ and Industrial Organization’ etc. being the ones most frequently encountered.

Contribution of Adam Smith in the field of industrial economics included the analysis of product pricing. He regarded a product having two prices. i.e., market price and natural price determined by the labour required to make the product possible. Ultimately he emphasized in ‘natural price’ and ignore the market price altogether. “The impact of Chamberlin’s work in

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industrial economics was so profound that it was regarded as the single most important antecedent of contemporary industrial economics”.

The most striking thing about modern industry is that it requires so much and accomplishes so little. Modern industry seems to be inefficient to a degree that surpasses one’s ordinary power of imagination. Its inefficiency therefore remains unnoticed. An industrial system which uses 40% of the world’s primary resources to supply less than 6% of the world’s population could be called efficient only if it obtained strikingly successful results in terms of human happiness, wellbeing, culture, peace and harmony.  

2.1.1. Objective of Industrial Economics:

One of the most important objectives of industrial economics is the development of satisfactory explanations and smoothly functioning of the ways in which the economics forces operate within the industrial sector. Empirical investigations in industrial economics now place the development and refinement of economic theory among principle objectives. The ultimate purpose is to interpret and forecast the actual situation in the real world. In fact, here applied economics is the logical extension of any theoretical economics and is the ultimate justification for it. Traditionally microeconomic theory is aiming at a make broader analysis and predictions than those with which industrial economics have been concerned.

Development is not a peak of achievement to which all countries aspire and which some have reached; it is rather a continuing process. The so called developed countries are themselves still developing; growth has been faster in

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the United States during the present centuries than in the countries of Western Europe and more recently has been for more rapid in Germany and Japan than in the Great Britain and Italy. Yet all these countries form part of developed world. The process of development requires two conditions: the availability of resources, of which energy resources are probably the most important, and secondly, socio-economic milieu which encourages, protect and reward the entrepreneur. Great Britain possessed both when modern economic development began in the 18th century. Other countries in Western Europe were no less well endowed with resources, but social conditions were less conducive to development. On the other hand, Japan was able to compensate for its poverty in industrial raw materials and energy resources by means of its managerial skills and the determination of its government.

Development necessarily takes places through time. It is diffused from the centre where it first takes place, e.g., innovations such as the steam engine, technical process in iron and steel working and adaptation of mechanical spinning and weaving originated in Great Britain and then spread first to France and the low countries, then to Central and parts of Eastern Europe, and lastly to the New World and Japan. The outward spread of innovations was not regularly predictable. They were adopted as and when a need for them appeared, and in many areas they were opposed by those who believed themselves threatened by their introductions. Diffusion has a strongly random element, and much depends on human perception of a situation. For instance, iron was first smelted with the coke fuel in Great Britain about 1709. Subsequent experiments in France and the Low Countries failed; however, the coke was not used successfully in continental Europe until the late 18th century in Silesia. It was not used in the Ruhr, which had the most abundant reserves of coking coal until 1849.
It is commonly accepted that fundamental changes in the practice of agriculture are a necessary prelude to developments in manufacturing. The Industrial Revolution in Great Britain was preceded and accompanied by radical changes in agriculture, which eliminated the open fields and the practice of following, and also initiated the selective breeding of livestock. France, after 1815, underwent important changes in agriculture, and later on the industrial developments of the former Soviet Union and Eastern Europe went ahead together with the collectivization of firms. The availability of energy resources and raw materials is always an important factor in industrialization and economic growth. In earlier developments it was essential: one could not conceive of modern industrial development except for a country like Great Britain, which possessed large reserves of coal and at least some other materials, and before 1850 industrial development could not occurred significantly in more than a few kilometers from a coal field. In the 19th century, the development of canals and railways permitted manufacturing to be established at a distance from the coalfields especially in Germany, where most of the modern industrial development took place after the construction of the railways network. Today, thanks to high voltage transmission of electric power, energy supply is far less significant in the location of manufacturing, and in many of the developing countries, the most important energy source is imported oil. Although certain industries, such as, iron-smelting remain closely linked with the sources of their chief materials.

2.1.2. Market Structure:

No doubt, 'structure' is a term frequently used, but rarely defined in industrial economics. 'Industrial structure' refers to the relative importance of individual industries within an economy and to the transactions pattern between these industries. 'Structure' generally refers to the levels of seller
and buyer concentration, the height of entry barriers and the degree of product differentiation within individual markets. Structures of industries can be divided both on the basis of ownership and size. On the ownership criteria, industries can be further divided into private, public and joint sector units. On the basis of size, they can be categorized into small, medium and large. In India, most of the large and medium scale units are in the public and joint sector. Small scale units are in the private sector. The next important criterion of industrial economy is the increasing contribution to the secondary sector. An important structural change that accompanies economic growth is that the share of primary sector on the total national output falls, whereas that of the secondary sector rises. This is testified by the experience of the other countries where sizeable shifts in the relative contribution of various sectors of national output occurred. To achieve these targets a major requirement to ensure a good market is the need for proper transaction links. Development of suitable road and rail link would go a long way in meeting market demands by improving the distribution system for various products. The strength of the country's industrial structure stemmed from several positive aspects of industrial progress achieved in the past, i.e. substantial increase in the size of the industrial sector, diversification of industrial base, development of scientific, technical and managerial skills and broad based growth of the entrepreneurial class. Most of the time, particularly, in underdeveloped countries, these could not be fully utilized because of weakness which have developed in the industrial structure. The weaknesses that were identified were: long gestation periods, low capacity utilization, inadequate

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technological innovation, increasing obsolescence, low rate of increase in productivity high cost structure. The emergence of shortages in the supply of strategic inputs such as power, coal, steel, cement and the inadequacy of transport facilities have accentuated the problems. Several of these weaknesses could be rectified if conditions are created for promoting an atmosphere of mutual trust between government and industry.¹

As the tempo of development grows, so does the requirement for capital is needed for development. The need of capital is continuous and also boundless. It is also generated by development. Economic progress creates its surpluses with the intention of further development is achieved, often at an accelerated rate. Most of the developed and developing countries have relied on their respective government for the capital investment and government is today the largest entrepreneur, accounting for almost half of existing industrial investment and continues to have new projects in fertilizer, steel and other fields requiring a large amounts of new capital.

The economic growth of nations in modern time is not merely a process of accumulating material capital and increasing the numbers and even the skills of the labour force. The major sources lie in the increased knowledge applicable to practical problems of economic production. This large and growing potential of technological knowledge can be tapped only if economic and social institutions have been properly adjusted to permit capital accumulation and efficient labour force.

Technological improvement, specialization and trade eventually delivered large gains in living standards for the core industrial, countries if not for their less developed trading partners’ dependencies. By the late 18th

century, Adam Smith was already remarking that “in a civilized and thriving country …… the accommodation of (a) prince does not always so much exceed that of an industrious and frugal peasant, as the accommodation of the latter exceeds that of many an African king, the absolute master of the life and liberties of ten thousand naked savages”.

The modern world shaped by modern technology, finds itself involved in three crises simultaneously. First, human nature revolts against inhuman technological, organizational and political patterns, which it experiences as suffocating and debilitating; second, the living environment which supports human life aches and groans and give signs of partial breakdown; and, third, it is clear to any one fully knowledgeable in the subject matter that the inroads being made into the world’s non-renewable resources, particularly those of fossil fuels, are such that serious bottlenecks and virtual exhaustion loom ahead in the quite foreseeable future.

The primary task of technology, it would seem, is to lighten the burden of workman has to carry in order to stay alive and develop his potential. It is easy enough to see that technology fulfill this purpose when we match any particular piece of machinery at work- a computer, for instance, can do in seconds what it would take clerks or even mathematicians a very long time, if they can do it at all. Purchase the technology of mass production is inherently violent, ecologically damaging, and self defeating in terms of non-renewable resources, and stratifying for the human person. The technology in production by the masses, making use of the best of modern knowledge and experience, is conducive to decentralization, compatible with the law of ecology, gentle in its use of scarce resources, and design to serve the human person instead of making him the servant of machines. One can also call it self help technology,

or democratic or peoples technology- a technology to which everybody can gain admittance and which is reserved to those already rich and powerful.¹

2.1.3. Impact of Industrialization:

About 200 years ago, unknown to those living at the time, a fundamental revolution began in the history of mankind, which was to lead to the development of the world. First in Britain, then in a few areas of Europe and N America, a structural transformation seen in perspective as having been in preparation for centuries shifted the balance of productive activity from agriculture to industry and opened up boundless possibilities for increasing the productivity of human labour. This process best described as industrialization, brought into existence those from the labour and style of living distinguishing the modern world from the past, the advanced countries from the ‘backward’ ones. The central characteristic of industrialization is machine production, the basis for an enormous growth in productivity and thus for economic specialization in all directions. It created a new environment for work, with its own demands and laws the factory. It brought about the concentration of workers in big industrial unit and their growth of forms to house the working population creating a new urban environment for social living.

Industrialization imposed new forms of labour by bringing together many workers under one roof to operate machine driven by power. Workers were incorporated into an articulated system of division of labour in which they performed only one small part of the total labour going into production.²

Industrialization is a process of economic development in which a growing parts of national sources are mobilized to develop a technically up to date

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diversified domestic economic structure characterized by a dynamic manufacturing sector having a producing means of production and consumer goods and capable of assuming a high rate of growth for the economy as a whole and of achieving economic and social progress.\(^1\) Industrialization offers a major opportunity and opens new doors of development for economically backward region, experiencing high population pressure, chronic unemployment and underemployment on account of lack of adequate off-farm employment opportunities.

Industrialization is the process where industrial activity plays a dominant role in the economy on the nation. Industrialization may take place as a result of some process of development planning. Manufacturing has always been regarded a necessary economic activity, ever since the first fashioning of a plough. The advantages of division of labour eventually created specialist producers of particular types of commodities.\(^2\) The division of labour not only enabled a producer to experience a high level of output produce, but at the same time it brought forward a unique and maintained enterprise. It initiated the onset of specialist manufacturing unit. This input brought tremendous advantages to the manufactures in respect of higher yield on the one hand and on the contrary the average productivity of the labourer improved considerably.

The process of industrialization under CAPITALISM involves important changes in the social relations of production. As large scale industry grows, it is important to have a supply of labour capable of responding the market force and this break down the existing system of organization. Industrialization is considered to be the panacea for the

\(^1\) UN Committee for Industrial Development (13-31\(^{st}\) May, 1963), p 33.
problems of poverty in underdeveloped world. The process is restricted not only by the shortage of capital but also by the predominance of the road of primary producers assigned to underdeveloped countries in the international division of labour.

Beyond work place, industrialization produces major changes in the economy. The work force moves from subsistence to predominantly commercial activity. It is in the sphere of work that the impact of industry is most immediately felt. Industrial employment brings a distinct pattern of relationships with machines, fellow workers and superiors.\(^1\) Today it is quite clear the effects of the processes of industrialization are felt in all sectors of the economy, mobilizing a growing portion of national resources for the development of technically advanced economic structures that can produce consumer goods and investment and guarantee its own economic and technological reproduction is a historic imperative for the third world countries; it is the path that should be taken by them in order to have access to development, modern technology and contemporary civilization itself.\(^2\)

The power and wealth of the developed countries are based on industrial advancement, and in consequence it seems to be the aim of every developing country to establish industries. There are various advantages of industrialization. By developing industries a country can provide consumer goods, textiles and other important goods for itself in spite of depending on imports. Increasing self-sufficiency provides major political and economic strength and makes a country more independent of foreign military or economic supremacy. The development of industries may be one way of

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diversifying the economy and the decreasing reliance on one or two primary products which may fluctuate greatly in price.¹ Most of the developing countries are faced with rapid population growth and it is increasingly difficult to provide employment opportunities to all. Farm mechanism and greater efficiency in the agriculture sector will free more and more people from the land. Industrialization is considered to be the best way of providing large numbers of jobs for the unemployed. It is also a fact that industrialization improves living standards. The experience of the already industrialized countries has shown that, as living standards are raised, the rate of population growth decreases, and thus in the long term, as well as the short term, living standards can be enhanced by reducing population pressure.²

Industrial economy emerged as a distinct field after the rise of the large modern manufacturing corporation around the turn of the century. For many years it was generally viewed as an intellectually isolated empirical field without much scope for formal theory or non-routine econometrics. But in the last two decades much of the significant work in industrial economics has been theoretical, and much of it has been produced and consumed by non-specialist.³ Industrialization is always not regarded as globally beneficial. In addition to some of the negative side effects observed in the underdeveloped world, there are the ecological implications of indiscriminate resources exploitation and unrestrained pollution sources of energy, the availability and security of which are no longer ensured. The continued ‘advance’ of industrialization also needs of land, sea and air.⁴

² Ibid, p 510.
2.1.4. Ecology as the Factor for Industrialization:

It is unfortunate that ecological considerations tend to get a back seat in economic planning, particularly while planning for industrial development. Many countries and regions tend to suffer now and have inherited depleted economy due to indiscriminate exploitation of its natural resources. Earlier, unmindful to natural environment and its capacity to recreate and conserve invaluable wealth. More often it is believed that economic development through the process of industrialization, especially the development of large and medium industries, would inevitably result in the degradation of environment, loss of ecological balance and depletion of its rare natural resources. Although freshness of air and water are difficult to capture in a framework of quantification, it cannot be denied that air and water pollution have higher magnitudes of social cost giving rise to escalation of public spending or preventive and curative measures. Environmental deterioration occurs rather slowly over a long period. The benefits of environmental protection are also equally slow to percolate and felt. The policy makers including planners, administrators and political leaders in their anxiety to produce quick results, visible enough to swing public opinion in their favour and private manufactures and traders in short term view of maximizing private profit, tend to be unmindful to the environmental cost and benefits which are no less tangible and of higher magnitudes over long time horizon. Here comes the necessity of prudent and enlightened intervention by the government for protecting and serving environment in the long term economic interests. Sometimes the government itself is responsible for encouraging indiscriminate exploitation of natural resources. Especially during the first three five year plans in India, Government policy towards environmental protection was very week. There was no appropriate thinking
towards such a vital concept of ecological balance as an integral part of development policy. Integration of environmental issues with economic planning of the state especially while programming for various industries, is crucial and should receive top priority from the very starting of survey and preparation of project reports. To check the ecological imbalances, it is also necessary that environmentally negatives be suitably taxed and positive activities be subsidized. Environmental objectives and targets should clearly be specified. While planning for new industries, programming of forestation, cleaning of rivers, avoiding air pollution in neighborhoods and avoiding other environmental hazards be specific target of industrial planning.

All industrial production gives rise to some form of waste. It is a fact that the complete removal of containments is not practical and this leads to pollution. The dilemma arises from the necessity for economic development and the equal necessity of preservation of the environment. The quality of life existing in the West requires commensurate pollution controls. It is relevant to ask whether in India, where the quality of life millions is below the poverty line, such exacting standards are tenable.

Due to rapid industrialization throughout the world and more specifically in the highly industrialized parts of the globe, a threat has become unavoidable concerned with the sustenance of natural resources. Two types of natural resources are available in the world i.e., exhaustible and inexhaustible resources. Exhaustible resources once used are seldom renewed and it takes geological era to replenish. Our resources are meant

not only for the utilization of present generation but also for the future generation.¹

Industrial ecology is an emerging framework for viewing the relationship between business and the environment. In 1989, the concept of an industrial ecosystem received wide attention with an article in *Scientific American*. In the publication; two General Motors researchers suggested that the days of finding an ‘open space beyond the village gates’ for industrial by-products were quickly fading and new ways of thinking about wastes and pollution were needed (Frosch and Gallopulos, 1989, p. 144). Since that time, the concept of industrial ecology has spawned an increasing amount of research, discussion and actual implementation. At the most basic level, industrial ecology describe a system, where one firm’s wastes (outputs) become another’s raw materials (inputs). Within this closed loop fewer materials would be wasted.²

### 2.1.5. Industrialization and Environment Degradation:

Due to the advancement of science and technology, which started in 1860 in England, industrialization took place and soon spread over Western Europe and North America. It is a fact that rapid rate of industrial development has given economic prosperity to human society. It has also given new socio-economic dimension as well as has provided material comfort to the people industrially developed countries but it has also created manifold environmental problems.

In the beginning several countries of the western world blindly followed the race industrialization and did not realize its environmental consequences. Both the components of industrial development, e.g.,

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exploitation of natural resources and industrial production have created several lethal environmental problems and have caused large scale of environmental degradation and ecological imbalance at global, regional and local levels in many ways. Exploitation of natural resources in order to meet the industrial demand of raw materials has resulted into (i) the reduction of forest covers due to reckless felling of trees, (ii) reduction in arable land due to industrial expansion, (iii) excavation of land for mining process, (iv) lowering the ground water table due to excessive withdrawal of groundwater, (v) collapsing of ground surface due to withdrawal of mineral oil and groundwater etc. Development in agriculture sector in order to supply raw material to factories such as sugarcanes, cotton etc. has been responsible for over utilization of soils which has resulted into soil pollution due to excessive use of chemical fertilizer and pesticides and insecticides.¹

Beside desired production, there are numerous undesired outputs from the factories such as industrial wastes, polluted water, toxic gases, chemical precipitates, aerosols, ashes and smokes etc. which pollute air, water, land, soil, etc. and degrade the environment. The industrialized countries have increased the concentration of pollutants emitted from the factories in the air, water and land to such an extent that they have degrade the environment to the critical limit and have brought the human society on the brink of its destruction. The adverse effects of industrialization may change the over all character of natural system and the chain effects sometime may become suicidal for human society. Majority of the impacts of industrialization are related to pollution and environmental degradation. The release of industrial waste into stagnant waters of ponds, tanks and lakes into river and seas contaminates water and causes several diseases and death of organisms and

this disturbs ecological balance of aquatic ecosystems. Release of chlorofluorocarbon (CFC) in the atmosphere through the operations of spray dispensers, refrigerators, air conditioners and fire extinguishers is capable of depletion of ozone layer. Increase in the concentration of CO2 in the atmosphere and depletion of ozone layer may cause changes in weather and climatic conditions of global and regional levels, may cause several damages to plant and animal lives and thus may create ecological imbalance, may cause dangerous diseases like skin cancer etc. Release of toxic gases through attentive and inattentive actions of man causes environmental hazards which destroy all types of life-forms in the affected areas. The Bhopal Gas Tragedy (Dec. 3-4, 1984) and Chernobyl nuclear disaster (1986) are the few examples of disastrous effects of modern industrialization.1

Industrialization needs to be sustained at the optimum level. It, of course, is a process which brings rapid stride in the field of economic and social well-being. The third world countries hitherto are deprived in the direction so as to meet the growing needs of population. Industrializing is the most desired way out to enhance the quality of life of the people of the developing countries. Besides various other advantages which obviously out number the demerits, but somehow or the other it has brought tremendous changes in the environment, that suggest the economists in particular to delve the mechanism so that judicious use of natural resources may be made keeping in view the need of the future generation together with eco-friendly methods of production.

Industrialization brings rapid advancement in the society through economic well-being of the people. Developed nations are enjoying utmost

basic facilities of living only because of timely acceptance of industrialization. Developing countries lagging far behind compared to develop one owing to its oblivious attitude towards industrialization. Nevertheless, industrialization brings a sea change in the social milieu of the newly industrialized nations of the world. At the one hand it provides the people with the opportunity of prosperity, happiness and good quality of life and on the other side the fragmentation of age old family system, social values, gap between haves and haves not, and the dismantling of social cohesiveness are altogether at the verge of collapse.

**2.1.6. Problems of Industrial Development:**

Industrial development has its genesis of the beginning of industrial revolution way back to 1779. It is not the lopsided pattern of development, rather it has to be seen in various other factors like physical, social, economic and political as well. Industrial development is achieved when different sets of factors are brought together. Assimilation of these factors may also be seen in the way which brings an area or a region on the map of the industrial clusters.

Problem of industrial development are traced in various other factors. When a country or a region or any planning commission bodies strive in the direction and field of industrialization, it is observed that different constraints emerge in the way of industrial development. Numerous problems which some times seem to be aggravated and restrict the development of industries are for instance, geographical, economic, social, political and environmental. Geographical factors include climate, relief features, accessibility to and from the site of different raw materials and industries as well. Economic factors are quite vital, as most of the industries and too in developing countries, financial problems, non-availability of raw material and natural resources, market
system and wage are some of the problems which the industrial development is faced with. Social problems are labour and employees relations, strike, trade unionism etc. Political interventions, bureaucratic strongholds, law and order problems, lack of infrastructural facilities, technological know how, preparedness of people to accept the latest innovative measures, fluctuations in fashion and poverty are problems of paramount importance in the development of industries.

Industrial peace is of vital importance for increasing industrial production and for securing economic welfare of the labour and economic prosperity of the country. Economic is the science which studies human behaviour as a relationship between ends and scare means which have alternative uses. An economic problem, particularly in the case of industries, arises because of scarcity of means and their alternative uses. There are various factors which create hindrances in industrial development.

2.1.7. Power Shortage, Market and Technology:

Power is critical input for industrial development; its shortage is a major hurdle in industrial expansion. Therefore, government policy generally bases in the concentration of a substantial rise in generating of power. Development is being a great need of a large market size for any product, which means production without consumption is incomprehensible. So, easy accessibility to market for various products and service is necessary.¹ Technology import can be a speedy route to economic growth. Valuable time is lost in achieving self reliance and technological gap between developed and underdeveloped world increases. Export opportunities remain unexploited and more import skill, scares resources get fettered away by continuance of

inefficient technology in the intervening period. There exists a considerable body of theory on collective bargaining, industrial conflict, trade unions, workers participation and practically every other question of consequence.¹

Another problem of transfer of technology is that it occupies an important place of the industrialization. The so called transfer of technology really constitutes the process by mean of which the underdeveloped countries rent or purchase of technology they need developing a process of industrialization. It has actually proved to be dependent and divorced, in most cases, from their development needs. Technology turned into one more merchandise and monopolized to a great extent by a small group of powerful countries, has become an element which is nearly impossible for the underdeveloped countries to control and reproduce.²

Some time division of labour creates a high level of interdependence between the tasks performed by different categories of workers. The coordination of the tasks of numerous workers in several sections of departments becomes crucially important. Industries need a class of professional managers with trained and mastermind work. Production in large enterprises must necessarily be addressed to a large and Impersonal market. This set the process of monetization and commercialization going in society. In turn, impersonal market forces such as changing taste and preferences and fluctuations in demand being to exert considerable influence on the production process.³ Family and class favouritism, personal rather than organization loyalties and whimsical administration, are sufficiently common

³ Rama Swamy, EA; Rama Swamy, U (1981): Op Cit, p 34.
among the elite groups from whom industrial managers are usually drawn to make the establishment of an efficient administration a halting process. This is not just a problem of the prevalence of sin.\(^1\) Sometime strikes or lockout becomes hurdle in the smooth functioning of growth and development. To make strike completely illegal would be regarded as intolerable, both from the point of the view of taking away a liberty and because strikes cannot be prevented merely by suppression.

The need to develop an efficient system of grievances arbitration has become urgent in the engineering industry. It is due to strike or lockouts, the industrial peace is being disturbed, production declines, production cost rise and labourers suffer hardship due to a fall in their income. The consumers also suffer hardship due to interruption in the supply of goods. Industrial unrest disturbs the tranquility of the country and benefits nobody.\(^2\)

The problem to be solved has many dimensions, but it can be reduced to three main issues:

(i) How to prevent wages and salaries from rising at an inflationary pace;

(ii) How to bring about a more orderly wage structure and

(iii) How to achieve these ends at the same time improve industrial relations.

It is difficult to visualize finding a solution to the wages problem without reference to the governments economic and industrial relations policies. Wage are bound to rise at an inflationary pace of the government’s general economic policy is such to promote a demand for labour that outstrips its supply. Most industrial jobs are repetitive, monotonous, difficult and dirty; some are even dangerous. These jobs have to be performed day after day under strict supervision. Workers and management may agree on such general

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goals as the maintenance of high level of productivity and wages, and the profitability of the enterprise. Disagreement does not necessarily arise only over wages and condition of work. It can revolve around such a wide range of issues as job assignment, work methods, safety, hiring and firing and participation in decision making.

The strike is the most dramatic manifestation of industrial dispute. Generally the standard procedure is to use strike statistics published by governments in all major industrial countries to measure the level of conflict. The other indicators of problem are more elusive and practically impossible to quantify. The expression that problem can find are limitless. Bargaining, grievances handling, boycott, restriction of output, absenteeism, turnover in the labour force, sabotage, intentional wastage of time or material, autocratic suspensions and dismissals, indiscriminate lay off excessive discipline fixing of unofficial speeds whether by management or labour, and the lockout are all manifestations of conflicts.\(^1\) The strike is one of the most difficult social institutions to research. Gouldner observes in his classic study of the wildcat strike: “A strike is a social phenomenon of enormous complexity, which, in its totality, is never susceptible to complete description, let alone explanation”.\(^2\) There can be enormous variation in the reasons of strikes as well as in their manifestations. One of the most common reasons is the demand for a large share in the profits of industry. Workers ask not only for more money but also for more power, so that they may have some control over the conditions under which they have to work.

Inappropriate of the site selection, plant and machinery, inadequate materials control, inadequate maintenance, lack of quality control too hurdle

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2. Ibid. p 131.
in the case of development. Healthy industries need well established market structure where products can easily sale on profit motives but some time due to inaccurate demand forecasting, selection of inappropriate product mix, absence of product planning, lack of market research and inappropriate sales promotion creates lot of hindrances in smooth functioning of industrial development. There where various cases of financial constraints like credit restraints, delay of disbursement of loans, unfavorable investment climate and fear of nationalization obstruct in the field of development. Production constraints occur due to shortage of inputs and import restrictions on essential inputs. Market constraints come under liberal licensing of projects in a particular industry, restraint on purchases by bulk purchasers, excessive taxation policy of government and market recession.

2.1.8. Problems of Industrialization in Underdeveloped Countries:

Certain inhibiting factors present in most of the underdeveloped countries always come in the way of industrialization. The basic economic facilities are one of the major causes of slow process of due to low level of industrialization of these countries development. Most of these countries suffer from the general inadequacy of transport system. Another important physical element, inadequacy of which leads to the obstacle to industrialization, is power. Due to lack of capital in these countries, sufficient investment could not be made in developing difficulty infrastructure. Important economic difficulties of the development of secondary industries in these countries are due to smallness of local market and absence of efficient marketing organization. The social organization of underdeveloped countries invariably contains elements which are not conducive to the rapid growth of secondary industry in these countries. These social factors which hinder economic change in these countries can be considered in relation to the
supply of three factors of production, i.e., entrepreneurial ability, labour and capital. Population is another problem which is infesting the economic landscape of the developing nations. Such demographic phenomenon creates new problems of unemployment, underemployment, seasonal unemployment or disguised unemployment. These are also set back in the case of development. Faulty public administration also handicap industrial development. Too much of redtapism not only wastes considerable amount of true but also dampens the interest of young entrepreneurs. Some international forces may also hamper the rapid industrial growth of underdeveloped countries.¹ Credit and financial institutions which can mop up the capital from those who have surpluses and make it available to the investor in the form of impersonal credit are crucial for development. Industrialization too requires a committed labour force. For industry to exist there has to be a market for its products. Industrial technology is geared to production for an impersonal market. Industry can prosper only if there is political stability. Rationalization is also responsible for industrial development where in business no caste, creed, sex etc. are desirable.²

It has been fully analyzed that industrial development has lot more to do in eradicating various other problems coming in way of industrialization. Whatever the hurdles there may be some of the remedial measures will lead to alleviate problems if not altogether possible to get rid of completely. Economists have to realize and put emphasis on suggestive measures of the problems of industrial development. Sustainable development is possible only when there is judicious use of natural resources. Government policies may be

formulated in such a way that the welfare approach should be accorded priority. Country like India must be adoptive of people oriented programmed while opting for industrial development. Law and order problem is the most emergent issue for the development of industries as it desist investors from investing the required capital. Working environment is also to be assured so that competitiveness may easily be achieved. Industrial sickness and lock out problems are two mare noticeable aspects of the industrial developments which also have to be solved for efficient growth of industries. Development may also be ensured of the political stability with sound economic policies together with globalization and the need of the people of the country are taken into account.

2.1.9 United Nations Industrial Development Organization (UNIDO): Organization of Development Assistance:

The United Nations Industrial Development Organization (UNIDO) was established by the UN General Assembly in 1966 and become the sixth UN specialist agency in 1985. Currently, UNIDO is working in more than 120 countries around the world promoting socially equitable, environmentally friendly and sustainable industrial development in developing countries and economies in transition. UNIDO’s services are non-profit, neutral and specialized. UNIDO consists of 168 members states and has its headquarters in Vienna, Austria.

The global policies and priorities of UNIDO are helping countries to pursue sustainable industrial development. It provides tailor-made solutions to industrial problems by offering services addressing three concerns “Competitive Economy, Sound Environment and Productive Employment” – often referred to as the 3Es of UNIDO. Each key concern is addressed at three different levels, namely the policy, institutional and enterprise level.
2.1.10. Type of Assistance and Programming:

UNIDO supports industrial development in developing countries and economies in transition through technical cooperation, training support, investment promotion services and policy advice. In many countries the assistance is bundled as an integrated package of UNIDO services, which promote competitiveness of economies, productive employment and sound environment. Integrated programmes are packages of supportive service modules mutually agreed and designed to meet the specific needs of the country and assist them to overcome to critical industrial development problems at the national level and those of a particular geographic area within a country. In 2000, UNIDO worldwide technical cooperation delivery was US$68.7 million. One-third of the assistance is directed towards low-income economies, and two-thirds to middle-income economies, following the World Bank classification system.¹

2.2. General Industrialization in India:

Industrial development has played a crucial role in India’s development strategy, particularly with regard to the objectives of structural diversification, modernization and self reliance. The rapid strides in industrialization have been accompanied by a corresponding growth in technological and managerial skills, not only for efficient operation of highly complex and sophisticated industrial enterprises but also for their planning, design and construction.

One of the major aims of planned economic and industrial development is to achieve balanced regional development. Reduction of regional disparities in the medium term, and their elimination in the long run, is always conceived as an ideal goal of socio-economic development. Some public analysts

believe that industrialization can contribute to the process to remove out regional disparities.\(^1\)

After independence, the Indian Government has formed with the high hope of building a strong economy with rapid industrialization. But the inherited class structure which determined the nature of the class-coalition wielding State power stood in the way any radical reform measures: the coalition of the landlords-rich peasants class and the bourgeoisie effectively barred the land reform measures, the primary condition for industrialization.\(^2\) While on the one hand state had to maintain the balance of the class coalition and to make periodic concessions to the exploited, on the other hand it could not change the position of any constituent group too strongly, for that would affect the collective strength of the coalition .....The limits to the state action were sharply drawn and any social structural reform was ruled out. The activities of the landlords-rich peasants also prevented industrial development through various ways, for example influencing terms of trade in favour of agriculture,\(^3\) speculation in food grains and thereby raising wage costs via inflation.\(^4\) Such coalition is likely to affect much more the development of rural industries as the later are closely related to agriculture. It is worth mentioning that land reforms are the vital importance for industrial development. It would unleash productive forces in agriculture raising food grain production and the supply of raw materials to the industries. The other

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important effect of land reforms would be increase in purchasing power of the rural people and thereby demand for manufactured goods.

Industry has a significant role to play in the Indian economy. The importance of this sector was never lost to the policy makers in India, and for reasons of social justice and political expediency, if not of economic efficiency, the general strategy of industrialization has always been spelt out policies and programmes.

2.2.1. Case of industrialization:

When India gained political independence in 1947, it had a strong case for industrialization. A large territory, big and growing population, a highly uneven distribution of national income with its implicit pressure on demand for consumer goods including consumer durables, a modest industrial base inherited from the colonial empire, the presence of a powerful national bourgeoisie, etc., all combined to justify India's claim towards industrialization. If one were to read the central message in debates and resolutions passed in the 1931 Karachi Session of the Indian National Congress, the 1938 Congress National Planning Committee's deliberations, the 1944 Bombay Plan, and the 1945 Statement of Industrial Policy (SIP), one discovers that that it was well recognized much before independence that an important task that India would have to undertake after independence would be to give a major thrust towards industrializing the economy.

2.2.2. Nehru-Gandhi Approach to Industrialization:

Two major schools of thought on the approach to industrialization stand out clearly. While Nehru-Mahalanobis model favoured a strategy of building basic and key industries with the expectation of maximizing growth

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rates over the long-run, Gandhi did not think that large factories would be able to solve either the problem of under-employment or that of providing Indian masses with their basic requisites.\(^1\) As is well known, ultimately Nehru-Mahalanobis strategy prevailed over the Gandhian approach and the second plan embarked upon an ambitious programme of building a network of basic and key industries, whose gestation period was long, whose investment requirements were too heavy, and whose growth propelling effects were to flow only after big time gaps. Nevertheless, the merit of Gandhian philosophy was not completely lost to the Nehru-Mahalanobis school, and the ultimate shape in which India’s industrialization strategy emerged did provide for boosting the modern industrial growth at the same time that it sought to support the traditional village industries. India thus chose to ‘walk on two legs’, and this core element of industrialization strategy has stayed on till today.

Against the Nehru-Mahalanobis strategy of rapid industrialization with priority for basic and heavy, urban-based industry, the Gandhian ideology pleaded for restoration of ‘village economy’. This ideology couldn’t conceive of India imitating the West in its economic and industrial growth. To conceive of Indian industrialization largely in terms of mechanized units was, to Gandhi’s mind, both impractical and undesirable. A labour intensive production, based on local labour and materials, could cater more effectively to local needs. Gandhi advocated for self-employed rather than wage labour, the later being rejected as an expression of exploitation of workers by employers.

The two economic ideologies were not altogether incompatible. The early policy makers, therefore, struck a pragmatic compromise between the

two and the blue print of the declared industrialization strategy, appearing first under the Industrial Policy Resolution (IPR) of 1948 and then under its counterpart of 1956, clearly demonstrated that traditional rural industries too had a crucial role to play. For example, while heavy industries were given priority, it was duly recognized that the village and small industries had a great potential for labour absorption. These industries were expected to restrain the inflationary tendencies in as much as they could increase their production with minor capital outlays, not only because of their presumed lower capital-output ratio but also because of a widespread underutilization of the existing capacity.¹ A high point of the reconciliatory strategy was, therefore, to assign the production of a large range of goods, to village, cottage and small-scale industries. To quote freely from the 1948 Industrial Policy Resolution:

These industries are particularly suited for the better utilization of local resources and for the achievement of local self-sufficiency in respect of certain types of essential consumer goods like food, cloth and agricultural implements. The healthy expansion of cottage and small-scale industries depends upon a number of factors like the provision of raw materials, cheap power, technical advice, organized marketing of their produce, and where necessary, safeguards against intensive competition by large scale manufacture, as well as on the education of the worker in the use of the best available technique .......

The concept of ‘industrial policy’ is comprehensive and it covers all those procedures, principles, policies, rules and regulations which control the industrial undertakings of the country and shape the pattern of

¹ Hann, HH de (Sept. 1980): Rural Industrialization in India, Discussion paper No. 54, Erasmus University, Rotterdam, p 2.
industrialization. It incorporates fiscal and monetary policies, the tariff policy, labour policy and government attitude not only towards external assistance but the public and private sectors also. The Industrial Policy Resolution of April 1948 contemplated a mixed economy, reserving a sphere for the private sector and another for public sector. The industries were divided into four categories. The main thrust of the 1948 Industrial Policy was to lay the foundation of a mixed economy in which both the private and public enterprises would march hand in hand to accelerate the pace of industrial development. Since the adoption of this Resolution, significant development took place in India.

The 1948 Industrial Policy Resolution declared that, as a rule, effective control over industrial activities in the country should preferably be in Indian hands. The resolution, however, also stated that ‘participation of foreign capital ....will be of value to the rapid industrialization of the country.’

These important developments necessitated a fresh statement of industrial policy. A second Industrial Policy Resolution was adopted in April, 1956. Important provisions of the 1956 Resolution were:-

(a) New classification of industries: Now the industries were classified into three schedules. Under schedule A, 17 industries were reserved for those which were to be an exclusive responsibility of the state. Under Schedule B, 12 industries reserved for those which were to be progressively state owned and in which the state would generally setup new enterprises, but in which private enterprises would be expected only to supplement the effort of the State; and the schedule C, all the remaining industries and their future development would, in general be left to the initiative and enterprise of the private sector. It spite of this clear cut grouping of industries under three schedules, these categories were not water tight compartments and room for
exceptions could be made.(b) Fair and non-discriminatory treatment for the private sector. (c) Encouragement to village and small-scale industries (d) Removing regional disparities and (e) Attitudes towards foreign capital.¹

Among the broad objectives of the policy and the plans, especially since 1956, the following have figured most prominently, though the emphasis on each has not been the same throughout the period:

(a) Acceleration of the rate of economic growth and the speeding up of industrialization and in particular the development of heavy and machine building industries;
(b) Reduction in disparities in levels of development among different regions;
(c) Prevention of undue concentration of economic power in a small section of the population; and
(d) Protection and encouragement of the small scale sector.

Again, quoting extensively from the 1956 Industrial policy Resolution:
The State has been following a policy of supporting cottage and village and small-scale industries by restricting the volume of production in the large scale sector, by differential taxation, or by direct subsidies. While such measures will continue to be taken, whenever necessary, the aim of the State policy will be to ensure that the decentralized sector acquires sufficient vitality to be self supporting and its development is integrated with that of large scale industry........Many of the activities relating to small-scale production will be greatly helped by the organization of industrial co-operatives. Such co-operatives should be encouraged in every way......

2.2.3. 1977 Policy Turn Under Janata Regime:

¹ Dutt, R and Sundharam, KPM (2005): Indian Economy, S. Chand and Company Ltd, New Delhi, pp 76-77.
The tardy growth of industrial sector, in spite of high investment rate, an increasing support of public sector and a highly protected domestic market for a wide range of industrial products, etc. became a matter of public concern. The capital-output ratio witnessed a continuous increase in plan after plan which militated against the Nehru-Mahalnobis case for a capital intensive way of production. Moreover, with tardy industrial growth, the ‘gleaming future’ shifted too far ahead “especially for agriculture workers, small peasants, workers in household industries, etc. As these groups have to bear the main burden of a postponed increase in the level of consumption”.

The Janata Government loudly alleged that the emphasis of industrial policy so far had been mainly on large industries neglecting cottage industries completely and relegating small industries to a minor role. The primacy of village and small industry was to be the prime goal of the new industrial strategy since employment was no more to be given a short shrift.

Janata Government thought of large industry in its 1977 SIP can analyses in addition to village and small industries, there is also a clear role for large industry in India. However, the Government will not favour large scale industry merely for demonstration of sophisticated skills or as monuments of irrelevant foreign technology. The role of large scale industry will be related to the programme for meeting the basic minimum needs of the population through wider dispersal of small scale and village industries and strengthening of the agricultural sector. In general, areas of large scale industry will be: (a) basic industries which are essential for providing infrastructure as well as for development of small and village industries, such as

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2. Hann, HH de (Sept. 1980): Rural Industrialization in India, Discussion paper No. 54, Erasmus University, Rotterdam.
steel, non-ferrous metals, cement, oil refineries; (b) capital goods industries for meeting the machinery requirement of basic industries as well as small scale industries; (c) high technology industries which require large scale production, and which are related to agricultural and small scale industrial development such as fertilizers, pesticides, and petro-chemicals etc; and (d) other industries, which are outside the list of reserved items for the small scale sector, and which are considered essential for the development of the economy such as machine tools, organic and inorganic chemicals.

2.2.4. 1980 Policy Re-thinking by Congress:

With the return of the Congress to power in 1980 things started changing fast, although only on an incremental basis. The economy had grown fairly satisfactorily for most of the 1970s yet the 1979-80 oil price shock alone upset the balance of payment situation in a big way. It was now getting clear that India could no longer afford the luxury of a highly protective industrial policy regime. To promote domestic industries as an alternative to imports, productivity and quality aspect could not be ignored. For raising productivity, the whole range of bottlenecks had to be removed; the restrictive and complex features of the industrial licensing policy were held responsible for production bottlenecks in many areas. It is understandable, therefore, that the July 1980 SIP was an interesting mingle of political statements aimed to demonstrate government's eagerness to attain social justice in economic development and, at the same time, covertly supporting the resumption of the country's uninterrupted growth through optimum utilization of existing capacity as well as expansion of industries.¹

Among the many objectives set out under the 1980 statement, higher employment generation, promoting economic federalism and preferential treatment to agro-based industries, need to be underlined in particular. The new idea of federalism was introduced in as a counter to Janata Government’s artificial division between small and large industry. Thus, the 1980 SIP sought to link small and ancillary enterprises with large industries.

“But it fell into the same trap that previous policies did when it said that the nuclei would also ensure a widespread pattern of investment and employment and would distribute the benefits of industrialization to the maximum extent possible. It failed to set forth a logical and feasible policy for creating employment opportunities and spreading industrialization into industrially backward areas in accordance with overall development policy. The role of creating larger employment and attaining more equitable distribution were again turned over to the small and ancillary enterprises without regard for the capabilities and effectiveness of these industries”.¹

A few notable changes occasioned by the 1980 SIP were: (1) excess production capacity in certain areas including mass consumption goods industries were allowed; (2) large industrial groups and foreign companies were no longer barred from entering the fields of productions hitherto restricted to small scale enterprises on the condition that such production would promote exports, and (3) the backwards areas industrial development programme was intensified through investment, subsidies and infrastructural improvements. The programme of industrial development of backward areas was especially welcome by state governments who vied with one another in promoting industries in districts which were not necessarily remote or

industrially disadvantaged but were industrially promising. This leads to increase the regional unevenness in industrial development.

2.2.5. The Crisis in the Economy:

Recognizing that some thing had got wrong in the industrial economy of India, the period of second half of the seventies was characterized by "official reflection" as well as an academic debate on the possible explanations of the poor industrial performance. After an extensive and intensive scrutiny of the available evidence, I.J. Ahluwalia identified three principal factors responsible for the poor performance.

These factors were: (1) underinvestment in infrastructure sectors such as power and railways and poor efficiency in the use of resources in these sectors; (2) slow growth in per capita incomes in the agriculture sector limiting the potential for demand of industrial products from that sector; and (3) the industrial policy regime encompasses both domestic controls and trade policy measures.

The external debt crisis which surfaced in early 1991 brought India close to default. The manifestations of this crisis were by no mean unusual. A deep fiscal crisis was just exposed with an almost unmanageable balance of payments situation and acceleration in the rate of inflation. For a foreign exchange constrained economy that always lived a hand to mouth existence in terms of external resources and relied on foreign capital inflows at the margin to finance the process of development, a difficult balance of payments situation was nothing new. This time around, however, the problem was both more acute and more complex. For one, the magnitude of the financing need was much larger. For another, the fragile balance of payments situation

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1 Ahluwalia, IJ (1985): Industrial growth in India; Stagnation since the Mid-sixties, OUP, N Delhi.
coincided with, and was partly the outcome of, a deep macroeconomic disequilibrium. This crisis in the economy, not attributable to any significant endogenous or exogenous shock, was bound to disrupt the growth process and endanger the price stability.

The origin of the crisis can be traced to the large and persistent macro-economic imbalances during the 1980s. The widening gap between the income and the expenditure of the government led to mounting fiscal deficits which were met by borrowing at home. The steady increase in the difference between income and the expenditure of the economy as a whole meant persistent current account deficits in the balance of payments, inevitably financed by borrowing from abroad.

The problem associated with these macro-economic imbalances were sharply accentuated, and perhaps brought forward in time, by the impact of the Gulf crisis on the economy in the late 1990. This coincided with an uncertain and disturbed situation in the policy which was followed by a prolonged political interregnum. Taken together, these developments led to an erosion of international confidence in India.

The fiscal crisis was neither an accident nor a coincidence. It was a direct consequence of the financial profligacy on the part of the government. This fiscal deficit had to be met by borrowing, mostly from the Central Bank and the people of India. The balance of payments crisis were neither sudden nor unexpected. It was man made and policy induced. The liberalization of the trade regime of industrial policies introduced in the early 1980s taken together created incentives for import intensive industrialization and increased the import intensity of production. ¹ The second half of the 1980s

also witnessed a surged in imports for the defense sector. During this period, export performance was at best modest while the growth in remittances tapered off and import substitution in the petroleum sector slowed down.

India thus come closes to default. The government was indeed reduced to last resort measures such as using stocks of gold to obtain foreign exchange, seeking emergency bilateral assistance from donor countries and borrowing under special facilities from the multilateral financial institutions. It is obvious that the soft options adopted by the government in the second half of the 1980s claimed their pound of flesh. Instead of introducing real correctives to manage the balance of payments, the short term debt was incurred mostly to finance imports of petroleum while the non resident deposits and borrowing in international capital markets were used to sustain import liberalization and defense purchases. External resources were, of course, fungible in use but current account deficits were financed by burden of debt servicing ultimately eroded international confidence in India’s capacity for repayment.

The root cause of the fiscal crisis, however, was the revenue expenditure outpacing the revenue receipts. The financing of this revenue deficit through borrowing meant that borrowing was used to support consumption expenditure. Given the existence of capital expenditure on defense and the social sectors, which did not fetch tangible returns, the rate of return on public investment elsewhere had to be extraordinarily high for it to yield a net income flow to the exchequer. Other factors too contribute to industrial stagnation. These are (a) slow growth of agricultural income and their effect in limiting the demand for industrial goods; (b) the slowdown in public investment after the mid sixties with its particular impact on

infrastructural investment, (c) poor management of the infrastructure sectors leading to severe infrastructural constraint, and (d) the industrial policy framework, including both domestic industrial policies and trade policies and their effect in creating a high cost industrial structure in the economy.

Lack of competition, increasing bureaucratic style of functioning and lack of profit motivation led to slow growth of public sector. The Indian economy slowly started becoming high cost and the capital output ratio started climbing up. The increasing emphasis on autocracy under the garb of self reliance further led to uncompetitive production. South Korea from 1960 itself had a market and export oriented economy. The result tells their own tale and there is no room for doubt that an open economy with a vibrant private sector and with healthy competition internally and externally can do wonders. The gulf war in 1991 brought India’s economy to a virtual standstill. Economic growth slowed down to almost zero. Industrial growth turns negative. Inflation picked up. Imports were squeezed and a restrictive monetary policy further enhanced the recession.

2.2.6. Restructuring Under 1991 Reforms:

It is true that despite a decade of incremental reforms, India at the end of 1980s still had a tightly regulated manufacturing sector. In July 1991, as a part of economic restructuring and liberalization programme, a new industrial policy was announced by the newly installed Congress government. Many of the World Bank recommendations were forthrightly implemented. The New Industrial Policy announced by the Government of India to fulfilled a long-felt demand of the corporate sector for declaring in very clear terms that licensing was abolished for all industries except 8 industries. For example, industrial licensing was completely abolished; licensing for capacity expansion by existing units was also abolished for all except 18 industries.
which accounted for only 20 per cent of the manufacturing output; the number of industries reserved for public sector investment was drastically reduced from 17 to 8; the MRTP Act was amended to lend a free hand to big firms for expansion, diversification and merger, most importantly, administrative and regulatory barrier to entry, expansion and modernization by industrial units were also drastically reduced. Until the close of the 1980s foreign direct investment was a mere trickle. Numerous cases of bottlenecks created by the bureaucracy were struck down by this singular decision of the government. In this since, the industrial policy was welcome because it took the bold decision to end the license permit raj and save the entrepreneurs from the clutches of the bureaucracy of the country to start an undertaking. All these provisions were welcomed by the business circles. There was thus the overall relief in the dismantling of industrial licensing and regime of controlled. The new industrial policy sketched out an elaborate list of industries in which ownership up to 51 percent, by both existing and new foreign companies, was freely permitted. Private domestic and foreign investment in oil, gas and power industries was also welcome. Clearance for technical collaborations could be almost taken for granted.¹

The minimal requirements for a New Industrial Policy should be to bring about an environment which fosters domestic competition and encourage cost and quality consciousness. As far as foreign competition is concerned, it is important to ensure that protection must be not given haphazardly and must certainly not be permanent. As a general rule, were the growth objective needs to be sacrificed for some other more important

objective, a careful cost calculation must be made so as to achieve the ‘more important’ objective with minimum sacrifice of efficiency and growth.

Public sector too faced big changes. Under the new regime, it was expected to:
(a) Strengthen its managerial autonomy and show concrete ‘economic results’.
(b) Faced increased domestic private sector competition in productivity and return to investment and international competition in tradable goods through reduction of protection;
(c) Absorb gradual elimination of budgetary support from government to meet enterprise losses;
(d) Partially disinvest equity in selected enterprise to inject a greater degree of accountability and performance-consciousness; and
(e) Effect restructuring or closer of patently unviable enterprise while mitigating the social cost of adjustment by instituting a social safety net, and so on.¹

Growth of the infrastructure sectors is a critical pre-requisite for a sustainable growth of the economy. Investment into these sectors have accounted for a major share of public spending for most of the last fifty years. Adequate cost effective and quality infrastructure is crucial for economic growth and development. It also affects international competitiveness and flow of direct international investments. The ongoing economic reforms, thus, attach a high priority to the better utilization of the existing infrastructure

assets and fresh development also, in order that existing bottlenecks do not inhibit the overall economic growth and export dynamism.¹

The new economic policies have two distinct aspects. First is the reorientation of the economy from the state, centrally directed and highly controlled economy to market friendly economy. A second aspect of the current reform is macroeconomic stabilization. This involves reduction in budget deficits as well as use of specific instruments of macroeconomic objectives.

2.2.7. Assessment of the New Economic Policies:  

There is widespread among both Indian and foreign investors that business opportunity in India improved after 1991. More specifically, the following positive effects on private industrial investment—including foreign investment—and international trade have often been emphasized as outcomes of the industrial policies:

(1) Costly and time consuming controls have been abolished. Until 1991' the industrial approval system implied that private investors and company had to spend considerable time and resources to obtain the necessary clearances. Most big companies had to maintain a special lobbying unit in Delhi to deal with government officials both formally and informally to speed up the approval procedures. After 1991, much fewer approvals are needed from the central government. Most clearances which are still required can be obtained at state government level.

(2) It has been made easier for big companies to expand. Monopolies and restrictive trade practices legislation has been radically changed so that even big companies with market share above one-third can expand their production and sale without prior approval from the government.

(3) Several sectors which used to be reserved for the public sector have been open up for private investment and in some of the sectors special incentives are offered to foreign investors.

(4) Foreign majority ownership is now allowed as the general rule while before the general rule allowed only 40% of foreign ownership.

(5) Quantitative import restrictions have been abolished and tariff lowered. On average, weight tariff were brought down from 87% in 1991 to less than 30% in 1997.

(6) Convertibility of Rupee on the current account has been introduced. This is not particularly important for foreign investors. They have for long had the opportunity to repatriate profit without restrictions, and when investments have been financed in foreign exchange there have been no difficulties obtaining hard currencies for import. But seen from the perspective of Indian promoters, this change of policy has been an improvement.

Economic policies generally and industrial policies in particular have a major role to play in achieving viability in external payments, attaining a sustainable pattern of energy use, and providing gainful employment to all job seekers. The highest priority today is to get the pattern of India’s industrial development programme to move away from the energy intensive and import intensive path pursued in the past. From the point of social transformation, the most important element in industrial policy has to do with employment orientation. The pattern of industrial growth needs to be such as would create adequate employment opportunities for our expanding workforce. Finally, an avowed objective of policy is the achievement of self reliance with regard to the balance of payments and, thus, in achieving a self sustaining pattern of growth. A reduction in the energy intensity of industrialization process would
also help to attain viability in external payments. To the extent that the import of primary sources of energy is today the single largest element of India current payments, a less energy intensive path of development will automatically help to improve the balance of payments. The primary objective of policy would therefore be to search for industrial processes-and an industrial pattern-which would be less energy-intensive, more employment intensive and yet capable of improving the overall factor productivity of the Indian economy.

What is necessary in this context is, first, the up gradation of technology; second, the reduction of input costs; and finally, domestic Research and Development and design engineering to keep ahead insofar as competitive domestic manufacturing capability is concerned.

A basic requirement in this context is the intermeshing of design engineering capability with long term investment plans and more importantly, focus on domestic manufacture and supply of equipment, which would help to improve capacity utilization, makes for better maintenances of equipment, and, all in all, leads to greater productivity.

It may be stated that the industrial policy may be able to attract foreign investment and give a boost to domestic investment, but whether it will lead to more employment along with higher output growth is doubtful. Besides, excessive freedom to foreign capital may ultimately affect India’s economic sovereignty and also push the country into a debt trap further.

2.3. India’s Small Industry Policy in the 90s:

India’s small industry policy and small-scale industrialization have been a widely known phenomenon. The relative merits of less capital intensity and more labour absorption capacity, among others, have endeared the sector to the policy makers as an instrument to achieve a variety of
economic objectives such as employment generation, production of mass consumption goods, balance regional development, equitable distribution of income, etc., since India independence.

In the pre reform era (1947/48-1990/91) when Indian economy was subjected to controls and regulations, small industry policy emphasized protected growth of the sector with a two pronged strategy: developing institutional network and offering protective benefits. As consequence, quantitative performance assumed importance. In the process, quality and efficiency suffered. The onset of economic reforms in 1991 necessitated a change in the direction for small industry policy. To combat the emerging competitive environment, redefining the small industry policy became imperative: qualitative performance could have been ignored only at the sector’s own peril. The sustained quantitative performance of SSI in the early 90s encouraged the scope for policy diversion. India’s shifting policy emphasis towards improving competitiveness is welcome considering the rapid technological changes, which revitalized and modernized even the traditional small industries in the developed world. However, to achieve the objective there is a clear need to develop a system with institution and built-in mechanism in which enable small industry to achieve technological improvements constantly.

2.3.1. Small Project, Large Dream:

The policy makers’ right from the beginning identified the multidimensional merits of small industry promotion for an underdeveloped economy like India. Accordingly, small industry got official recognition as soon as India attained independence. Small industry was assigned a crucial role in India’s economic development strategy by the Industrial policy Resolution (IPRs) of 1948 and 1956. The IPR, 1956 outlined: “The
Government of India would stress the role of cottage and village and small-scale industries in the development of national economy. In relation to some of the problems that need urgent solutions, they offer some distinct advantages. They provide immediate large scale employment, they offer a method of ensuring a more equitable distribution of the national income and they facilitate an effective mobilization of resources of capital and skill which might otherwise will remain unutilized. Some of the problems that unplanned urbanization tends to create will be avoided by the establishment of small centre of industrial production of all over the country”.¹ The policy emphasized to encourage to small industry to acquire sufficient vitality to be self-supporting and its development to be integrated with that of large-scale industry. The policy further stressed the need to improve competitive strength of small industry through technology improvement and modernization.

Initially, the accent was, therefore, laid on creating a conducive climate for setting up new units and for the modernization of existing units. Besides, the programme of small industry development was conceived mainly to protect small industry from competition from better organized large scale units by providing subsidies and preferential excise duties.²

The subsequent small scale industry policy was formed mainly on the basis of the recommendations of (i) Team of Ford Foundation Experts and (ii) The village and small industries committee (known as Karve committee). To implement of recommendations of the former for an effective countrywide industrial extension service, towards this ends, the all India Small-scale Industries Board was constituted as an advisory body and the Development

3. Ibid.
Commission for Small Scale Industry (DCSSI) was established in 1955 to coordinate and execute the policies of the Government of India. The implementation of Karve Committee recommendations led to the emergence of protective measures such as (a) product reservation for small industry manufacturing, (b) product reservation exclusive Government purchase, (c) price preferences, (d) differential taxation, etc. In the subsequent years, India evolved a comprehensive policy for small industry based on institution on the one hand protective measure on the other.

During this period, the small industry performance was successively hailed, as its contribution in terms of employment, production and export increased remarkably. Quantitative performance appeared to have been the major criteria for the sector’s performance evaluation.

But in the meantime, empirical studies brought out the deficiencies of the policy with reference to small industry performance. Kashyap found that the high growth of the sector was hardly accompanied with efficiency and innovativeness. According to him, the assistance arrangements were wasteful, ineffective and even counter productive. The growth of the sector to the policy bias against largeness. The role and impact of Government machinery on small industry promotion has also been questioned by Desai and Taneja. Their conclusion indicated that the system built up by the Government of India to assist small firms seemed to help the wrong firms, benefit them at the

expense of the consumers, and create a bureaucracy with no essential function.\textsuperscript{4} Further, Nanjundan pointed out that the quality of infrastructure and services provided for small industry in India leaves much to be desired and undoubtedly affects adversely the operation of small enterprises.\textsuperscript{5} According to Vepa, the institutional network established for the promotion and growth of small industries in India in conceptually comprehensive but weak in the field. These, in brief bring out that Government institutional infrastructure is ineffective.\textsuperscript{1}

Despite policy bias in favour of SSI and comprehensive institutional network, Indian small industries achieved little in terms of technological progress. Therefore, among others, Subramanian called for a change in the direction of policy and targeted efforts away from the present one saddled with product/price reservation towards technology development.\textsuperscript{2}

All these bring out three major issues related to India’s small industry performance during 1948-91. (a) Ineffectiveness of Government machinery. (b) Misdirected focus of Government policy particularly in terms of protective measures, (c) The consequent absence of technological improvements in small industry sector.

\textbf{2.3.2. Small Industry Policy and Performance in the 90s: Changing Strategy?}

The New Industrial policy introduced in July 1991 marked the beginning of economic reforms in India. The basic elements of industrial liberalization comprised the elimination of all entry barriers to most industries as well as the associated constraints on scale and technology. Industrial

\begin{itemize}
  \item \textsuperscript{1} Vapa, RK (1995): Restructuring the Institutional framework for Promoting Small Scale Industries in India, NCAER-FNS, New Delhi, p 78.
\end{itemize}
liberalization was complimented by trade liberalization in the form of drastic reduction in customs duties and removal of restrictions on imports on raw materials, intermediates and capital goods. The resulting environment anticipated being competitive to the hitherto protected small industry. This necessitated a new direction for the long-term development of the sector.

It is perhaps with this objective that an exclusive policy for small industry was introduced in August 1991. Apparently, the policy does not signify any major deviation from the past. But a minute perusal does indicate that the policy intends to promote competitiveness of the sector more than any thing else. Unlike in the past, the policy does not contain mere intentions of Government. It has proposed clear guidelines to deal with the three major areas of concern for the sector: (1) finance (2) marketing and (3) technology.

2.3.3. Major Problems of Small Scale Industry:

As per the Special Group report, the major problems faced by the SSI sector relate to: (a) Credit, (b) Infrastructure, (c) Technology, (d) Skill Development and (e) Marketing. The indicators of autonomous growth in recent times have been stifled due to the impact of WTO agreements affecting India, like removal of Quantitative Restrictions (QRs), dumping of certain goods/items, power related inadequacies and credit related insufficiencies, etc. the employment generated through induced measures can serve as a useful supplement to the autonomous measures.

The problem of small industry in these areas is closely interlinked: It is due to rather 'insufficient' quality that small industry units face the problem of marketing. To improve quality, many of these require going for technology upgradation and modernization. This, in turn, demands enormous amount of funds. Even after modernization, to sustain competitiveness, small industry should have access of technology information. If these are taken care of, then
what small industry need is marketing assistance or information on marketing opportunities.

The small industry policy has attempted to address itself to these problems. What is significant is that the policy carved out greater scope for the involvement of state governments and particularly, industry associations. All these portended that the emphasis of small industry policy in the 90s will be on competitive growth rather than on protected growth.

As consequence, there were widespread fears that economic liberalization would adversely affect the growth of small industry in the short run, if not in the long run. In the process, employment generation, small industry production and export contribution - the prime pillars of small industry achievements thus far, were anticipated to decline. That is to say, diverse focus on qualitative performance to accelerate the quantitative performance in the long run led to the interpretation that quantitative performance is likely to get affected in the short run.

But contrary to all apprehensions, small industry could sustain its quantitative performance in the 90s. The unhindered growth of small industry in terms of units, employment, production and exports in the 90s implies that economic liberalization and the resultant competitive environment have not been affecting small industry performance adversely. This is significant because by the 90s, some of the protective measure have been either frozen or dismantled.¹

It is at this juncture that the Government initiated several measures to strengthen the competitiveness of small industry, in pursuance of the Small Industry Policy, 1991. Most of these measures are related to technology upgradation and modernization, finance and marketing.

It appears that Government is evolving a focused approach for small industry development in the 90s. This, intern, have three dimensions:

1. The problems of small industry are vast and varied. To evolve an effective approach, it is appreciate to concentrate on major areas of concern, supplemented by efforts to deal with the rest. Accordingly, new policy initiatives are primarily aimed at technological transformation of the sector along with the provision of financial and marketing assistance.

2. The small industry units are widely scattered. It may not be possible to attend to their major problems across the country simultaneously to enhance competitiveness. Therefore, policy initiatives do indicate that they are cluster based some extent.

3. To have an effective policy implementation, the involvement of the sector itself is crucial. To ensure that, industry associations have been assigned a major role, wherever possible.

Thus, there is a significant change in the overall strategy for small industry development. Prior to 1990s, small industry development was perceived mostly in terms of protected growth. But now the emphasis is on competitive growth. To achieve this objective, the evolving strategy involves small industries themselves with a focus on cluster for technology upgradation and modernization.

It may be too early to judge the sufficiency of the strategy to bring out the desired outcome. But, internationally rapid technological changes are revitalizing the small scale sector and it is perceived that the future role of small industry will be based on competition, productivity and efficiency.1

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Considering this, the shifting policy emphasis in India is a heartening development. However, the technological transformation of the entire small industry sector to enhance competitiveness is a gigantic task. This is more so if one view the global development in the light of the quality of infrastructure and its overlapping functions in India. Nanjundan emphasis that the use of micro-processors has brought about a technological revolution and affected manufacturing methods and enterprise organization in developed countries in a significant way which tends to favour small-scale production. This technological revolution—known as flexible manufacturing system (FMS)—will be the most important development affecting small industry development in developing countries in the coming one or two decades.¹

In the light of these developments, India's evolving strategy of focusing on small industry clusters involving small industry associations, primarily for technology development appears appropriate. But a perusal of programmes and institutions involved in the implementation of this strategy reveals that there is overlapping of functions between institutions. The overlapping of functions must be avoided and there should be central co-ordination for these programmes. The strategy has to be pursued more rigorously.

Further, there are two other equally important requirements: efficient government institutional support and effective R&D Network. If past experience is any indicator, the competence of the existing institutional set up to realize the changed policy focus needs to be examined. An entire revamping network may be essential. Industry representatives may be involved in the functioning of Government agencies.

The concessions and benefits should be targeted towards the modernization of small industry units, instead of towards protection. Even in the era of liberalization, there is a strong case for R&D subsidies for small industry.

There is also an urgent need to develop a centralized R&D facility for small industry, since individual small industry units will not be in a position to incur heavy investments for technological innovations. The proposed R&D subsidies should be an incentive for small industry units to make use of such centralized R&D facility.

Small Industrial Development Organization (SIDO) should undertake studies periodically to take account of global technological changes in small industry. These studies should be diffused across the country through SISIs and DICs. These steps will strengthen the evolving strategy for small industry development to become much more result oriented.

2.3.4. Summary:

The characteristics of small-scale enterprises favourable to achieve the desirable socio-economic objectives led Indian Policy makers bring the sector to the central focus as part of the economic development strategy soon after independence. The subsequent thrust on institutions for promotion and incentives feature of India for protection became a distinctive small industry policy. The policy become comprehensive in terms of institutions, programmes and incentives by the 80s and in the process of its implementation, protected growth assumed significance.

The consistent and impressive growth of the sector in terms of unit’s and employment, output exports led to the impression that the path pursued so far for small industry growth was successful. But small industry performance in terms of dynamic efficiency was rather dismal.
It was the introduction of economic reforms in 1991, which hinted a turnaround in India’s small industry policy. The sustained growth of small industry in the 90s give ample scope for the Government to further shift the policy emphasis from protected growth to competitive growth. Though the steps taken so far to improve the technology of small industry are heartening, special attention must be paid to take account of the global changes occur in small industry and enable domestic small industry to enhance competitiveness on the continuous basis. The Government support machinery has to be revitalized; effective Research and Development network needs to be developed and small industry associations have to be involved intensively.

Small scale industries have acquired pre-eminent position in the economic structure of the country and help the economic development and removal of disparities. It is the symbol of Indian economy and reflects production by masses rather than mass production. As of today this sector has 34 lakh units which are 95% of industrial units in the country and producing over 7500 different items. The sector contributes about 40% of value added in the manufacturing, 34% to the export, gainful employment to 177 lakh persons and 7% of GDP. The average rate of growth of production is estimated at 7.7% and employment is about 3.7% per annum during the Ninth Plan and the target for the Tenth Plan has been kept at 12% and 8% (GDP). The sector blossoms into an epitome of excellence and harbinger of a new egalitarian society.

The SSI sector has proved its mettle in the changed liberalized economic environment of the country. The gradual and impending application of WTO Regulations and removal of quantitative Restrictions have added to its woes. With decline in agricultural employment and virtual stagnation in
the organized manufacturing sector, employment in this sector has emerged as
the only ray of hope. ¹

In no country, however, has the doctrine of small industry received
such strong official support as in India. There are a number of reasons for
this. The most important is the legacy of Gandhian teaching. In addition, the
very wide distribution of existing small industry in India, the great pressure of
population, and the shortage of capital have all tended to direct attention
towards the small scale sector as a possible means of increasing output
employment in Indian industry for at least the next few decades.

The small scale sector is growing fast and is capable of addressing
itself to the basic problem of Indian economy i.e. unemployment and regional
development. There is ample evidence to suggest that it will continue to play
an increasingly important role in industrial development of the country. The
sector is ideally poised to attract both technology and funds to ensure rapid
growth and sustained process of technology up gradation and quality
improvement in future. The plan objective of economic growth with social
justice was kept in view in the overall strategy of industrial development. In
the context of the major problems of poverty and unemployment faced by the
Indian economy, the development of Small Scale Sector (SSI) was considered
essential because of its being labour intensive having implications for equity,
flexibility, capability to contribute decentralization, to promote
entrepreneurship, optimum use of local resources and talent etc.

The capability of Indian SSI products to compete in international
markets is reflected in its share of about 35% in national exports. In case of
items like readymade garments, leather goods, processed foods, engineering
items, the performance has been commendable both in terms of value and

their share within the SSI sector while in some cases like sports goods they account for 100% of total exports.

The Small Scale Sector is poised to be the engine of employment generation in next ten years as is clear from the projections made by the Working Group on Small Scale Industries for the Tenth Five Year Plan.

The process of liberalization and market reforms has created wide-ranging opportunities for the development of small-scale industries. At the same time changing world scenario has thrown up new challenges to the very existence of the sector. The need of the hour is to suitable strengthen the sector so that it could adopt itself the changed environment and face the challenges boldly and effectively. The sector, however, faces formidable challenges today not only from multinational but also from large domestic players. The gradual and impending application of WTO Regulations and removal of Quantitative Restrictions have added to its woes. The peculiar characteristics, inherent strengths, latent capabilities and survival instincts of the sector have enabled it to weather surrounding so far. With liberalization of the economy and its assimilation into the globalize world economic order latest and state of the art technology needs to be adopted by new units coming up in the sector, while the existing ones require to carry out technological upgradation from time to time to enhance their competitive strengths. The need of the hour is Technology Upgradation.