CHAPTER - XI

SUMMARY AND CONCLUSION
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SUMMARY:

1 Unemployment, regional imbalance and pollution have been the bane of India's economic development in the last four decades. There is a need for changing the technology. There is a search for appropriate technology which is economically viable, technically feasible and ecologically sound. In the field of cement industry MCP is considered to be such an appropriate technology. The objective of the present investigation is to study the technical feasibility, economic viability and ecological soundness of the technology used in MCP with special reference to the Lokapur Cement (Chapter-I).

2 The history of cement may be traced back to the year 1824, when Joseph Aspdin invented this cement by a compound of clay, lime and mortar. This industry has been flourishing by leaps and bounds since then because cement is essential to all constructional activities like dams, highways, bridges and what not? Its role in agriculture, industry and transport is discussed (Chapter II).
Cement industry did not receive adequate attention during the pre-independence period. But it assumed greater and greater significance in the post-independence period. Its capacity also grew from plan to plan (Chapter III).

The idea of MCP sprang up in the wake of unsuitability of large scale production and its ills in poor countries (Chapter IV).

In poor, under developed and highly populous countries like India advantages like high employment, exploitation of scattered and small limestone reserves, intensification of regional development etc. make out a case for MCPs (Chapter V).

MCPs could be located in places where limestone deposits are small and scattered and efficient transport system is absent (Chapter VI).

Among the five technologies that are available for manufacturing cement under small scale, the VSK technology is most advantageous and feasible (Chapter VII).
The economic profile of the Lokapur Cement Plant is given in terms of Break-even analysis. Its position vis-a-vis large scale plants is considered with reference to Break-even output, investment cost, production cost and employment. From all these points of view, LCP stands the test (Chapter VIII).

Though a 10 years period is too short to get full scale improvement of the Lokapur Cement Plant on the area around. There is discernible change in the socio-economic environment (Chapter IX).

MCP is viable from environmental point of view. MCP is virtually free from pollution (Chapter X).

CONCLUSIONS

The foregoing analysis leads to the following conclusions:

1) That Lokapur Cement Plant is economically viable as the break-even point is lower compared to the break-even point in large plants.

2) It is labour-intensive. For a given output of cement, it employs more labourers.

3) It is capital-saving. For a given output of cement, it requires less capital.
The study shows the Lokapur Cement Plant has registered signal achievement in the sphere of cement industry. The progress it has made and the strides it has taken even in its infant stage are remarkable. There are vicissitudes in the life of an industry like 'tides in the affairs of men'. This plant too is no exception to this universal rule as it is struggling to find itself well-saddled. The MCP has been considered from three important factors viz. reducing unemployment, regional imbalance and environmental pollution. Mini cement plant is viable from all these considerations.

SUGGESTIONS:

Looking into the positive developmental effect of the Mini Cement Plants the following suggestions can be made.

1) It is suggested that the price of coke-breeze an important input in the production of cement through VSK technology needs to be stabilised or its cost should be subsidised reasonably.

2) To encourage the setting up of MCPs tax concessions should be given.

3) Concerted effort through proper planning be made to increase the consumption of cement in rural areas.
Development Economics has now moved towards Eco-development approach emphasising the environmental precautions to be taken. There is a growing concern to shape industrialisation process and structure making it more environment-friendly. The developing countries have to shape their programmes of development so as to achieve balanced regional development and environmental sustainability. The Mini-concept achieves these twin-objectives.

In a situation where capital is scarce and labour plentiful, marginal productivity and hence the price of capital would tend to be high and the marginal productivity and price of labour would be equivalently low. This would encourage a substitution of labour for capital wherever possible by appropriate shifts, both in the lines of industrial specialisation and in the techniques of production used in any given industry. In general, where market opportunities exist and where technological restraints are not a problem, the most efficient use of resources in an underdeveloped country will tend to favour labour-intensive techniques. A large volume of employment implies that the available income is spread over a larger number of people and hence a higher degree of economic equality goes with labour-intensive techniques.

The choice of techniques of production in an underdeveloped country is a major problem of developmental planning. It has a great significance
in its economic development. Ordinarily, it should depend solely on
the requirements of the resource pattern in such a country. Underdeveloped
country generally keeps the following objectives in mind when faced
with the choice of techniques.

1. To use the available capital resources and to make an effective
   use of them.
2. To save foreign exchange.
3. To make full use of the labour force.

Schumacher used the term Intermediate Technology in the sense of an
Appropriate Technology. Appropriate Technology comes in between inferior
technology and superior technology. It is more productive than inferior
technology but not so much productive as superior technology. It requires
less investment both per unit of employment and per unit of output than
superior technology. The developing nations need Appropriate Technology
because it will be cheap enough to be accessible to the masses. It will
contribute to the achievement of the economic and social objective of
development of rural community. In a development strategy based on a
regional or district approach, with production in agriculture and industry
being closely inter-related and hence based principally on local materials
and meant for local consumption, there would be plenty of room for
Appropriate Technology. In determining whether a technology is appropriate
we have to consider the development goals, the resource endowments
(including technical and educational levels of the people) and the socio-political environment (the cultural level of the people).

According to Schumacher, to whom the 'small is beautiful', there is an imperative need to develop industrial technology more suitable to the proportions in which capital and labour are available in developing countries. Schumacher proposes a technology on certain fundamental rules:

1) To make things small wherever possible.
2) To reduce the capital-intensity because labour has got to be involved.
3) To make the process as simple as you can.
4) To design the process to be non-violent.

The problem of regional imbalance is found in almost all countries in varying degrees. But in developing countries, this problem is in serious proportions. Large differentials at the levels of development tend to get more accentuated in the absence of decisive state intervention. Serious doubts arise about pursuing maximisation of the rate of economic growth as the only objective as it overlooks or undermines the equally important social objective of distributive justice. This is, no doubt, basically an economic problem but it has also serious socio-political implications, particularly for a large and developing country like India. The problem of regional imbalances, therefore, becomes a major policy issue. The initial impetus for the evolution of policies for industrial dispersal was provided by the serious problems of congestion and deteriorating civic and other amenities and services in the fast growing cities in
India. Thus once the 'take-off' into industrial growth begins, regional policy becomes crucial.

Though sectoral approach to planning has dominated the Indian development scene, increasing attention is being paid to the regional dimension. Apart from the problem of securing a regionally balanced development and bringing the backward regions on par with other regions, there is also a growing realisation that an effective approach to planning should have a conscious regional perspective, in the sense that planning should answer to the clearly identified need of regions and should take into account their growth potential and natural resources. Such a plan also becomes immediately meaningful to the people of the concerned region and could stimulate greater participation on their part for effective implementation. In fact, it would be ideal to have a detailed spatial plan simultaneously with a sectoral plan, both integrated with each other. It is necessary not to lose sight of the spatial perspective but to work for a spatial-sectoral integration in any long-term economic planning.

Industrialisation should however, be planned taking into account the social cost and the benefit of the industries envisaged including the impact on employment. A strategy for developing the backward regions to be meaningful, should necessarily include a strategy to reduce poverty,
integrated with the strategy for overall development. From the point of view of making an impact on poverty and catering to the basic needs of large sections of the people, the regional development has to be balanced between rural and urban areas. An important element in the strategy for balanced regional development is to build a planned infrastructure and provide all basic facilities at different levels of the hierarchy of villages, central villages, talukas, towns and district head-quarters. The higher level in this hierarchy should be centres for promoting the development of the surrounding regions, rather than the centres where the growth is confined. Much of the urban development seems to be taking place at the expense of rural development and even the growth of infrastructure and the tertiary sector are being less responsive to rural needs. Urban development has to complement and stimulate rural development and has to be integrated with the latter.

While analysing the pattern of investment, particularly from the Second Five Year Plan onwards, one finds that a major share of the public sector investment has gone into the capital-intensive projects like power projects, big irrigation schemes, other means of communication. This has no doubt strengthened capital-base of the economy but has failed to generate large-scale employment-opportunities either directly or indirectly. In an underdeveloped economy the infrastructure - means"
of transport and communication, power and water supply and repair and credit facilities are deficient in many respects. Hence, scattered markets in isolated villages and towns are best served by local productive activity on a small-scale. This also helps the problem of providing employment to workers near their homes and thereby avoids the laborious process of their shifting to industrial areas and costly investments on education, health, housing, social welfare — which are linked with large-scale urbanisation. Another factor for the establishment of mini-size is the maximisation of social marginal product. In other words, although, capital-intensive techniques may yield a larger return to few, these are not beneficial to the community at large in an underdeveloped economy. Here the major problem is to utilise its unemployed man-power. This is not only an economic but more importantly, the social problem. Unless the economy goes in a big way to create new production activities in different sectors of the economy, there is no hope to make productive use of our vast human resources, which would remain unemployed. Thus there is a need for properly harnessing these human resources so that the society gets maximum benefit from them in the form of enlarged output of social goods and services.

The main target of the new pattern should be development, which shall be described as a process of socio-economic change primarily directed towards:
1) The satisfaction of basic human needs, starting with the needs of neediest, in order to reduce inequalities between and within countries.

2) Self-reliance which grows from within i.e., endogenously through social participation and control.

3) Harmony with the environment to ensure the sustainability of development over the long run.

The Industrial Economics developed in the west highlighted the economies of large-scale production and maximisation of private profit to the utter neglect of social cost in terms of environmental degradation. Economic thinking now is directed towards social cost and benefit which perhaps would point to the need for smaller units which would keep environmental degeneracy to the minimum. If the social cost and benefit are incorporated, the new in Industrial Economics may even favour medium and small-scale units rather than the big ones.

The environmental awareness in these days may affect the economics of size in industrial units. The traditional theory indicated U-shaped average cost curve for the firms. In depicting a flatter U-shaped curve it had not considered the effect of pollution on the cost, may be because the theory developed in the last century could not foresee such heavy environmental impact as is found today. According to it,
the diseconomies leading to rise in cost curve were only due to problems of management, organisation and co-ordination. In other words, it considered only the managerial diseconomies. The modern version of the cost analysis depicts L-shaped long run cost curve. Here too the environmental costs are not considered may be because they are considered as 'externality'. But, in recent years, in most of the countries the governments insist on installation of pollution abatement devices. Therefore, pollution cost are gradually internalised. Hence, as the firm grows in size pollution cost become substantial and they may lead to rise in the average cost curve. It is worthwhile to enquire into the shape of the long run average cost curve when pollution cost are internalised.