UNIT 21 SECTORAL AND SPATIAL PLANNING

Structure

21.0 OBJECTIVES

After going through this unit, you should be in a position to:

- Distinguish between various types of development planning;
- Appreciate the importance of economic models in planning;
- Identify the important aspects of sectoral planning; and
- Explain the need for spatial considerations in formulation of development plans.

21.1 INTRODUCTION

In our earlier units, we have highlighted the need for and rationale of development planning in a country. We come across the words 'plan' and 'planning' quite often in our day-to-day life. For example, we may plan to construct a building or plan a holiday trip to a distant place or even plan a conspiracy against someone in the office. In all these cases, planning involves certain steps. Firstly, we need to specify our objectives in clear and unambiguous terms. Secondly, we have to visualise the entire process and make requisite pre-arrangements for carrying out the plan. Thirdly, our plan should be balanced and consistent in the sense that all inter-related actions and elements fit into the whole. Finally, we need to optimise our objectives such that we recognise the constraints on the way and execute the plan at minimum cost. Any unplanned action or inconsistency may adversely affect realisation of the objectives.

The planning process in a country moves along similar lines. A country specifies the objectives to be attained. It could be realisation of maximum possible growth in gross domestic product (GDP), or reduction in poverty level and inequality, or attainment of self-sufficiency in certain products, say food grains, or it could be a combination of all the above. Secondly, there should be a strategy to carry out the plan and realise the objectives. Keeping country specific economic conditions in view, the plan objectives and plan strategy vary across countries. Even there are instances of change in plan objectives and plan strategy in the same country over time.

In this unit we will discuss the salient aspects of plan strategy followed in countries in general and South Asia in particular. We will look into the issue of planning strategy in a sectoral and spatial framework. This would help us in bringing out the need for sectoral disaggregation and consistency among various sectors and regions within a country.

21.2 TYPES OF PLANNING

It is accepted throughout the world that planning accelerates economic growth and results in economic development. You may be aware that development is a broader term than growth. The distinction between these two terms is a subtle one. In order to visualise it let us take another example: Look into the difference between physical growth of a child with age and his overall development in personality and intelligence. The point to be noted is that growth may take place without development. Higher economic growth in a country may result in impoverishment of certain sections or certain regions. While economic growth reflects the increase in output, economic development includes other aspects such as education, health, nutrition, inter-personal and inter-regional economic equality, etc. However, the fact remains that economic growth facilitates development. Growth results in increment to output and such increments can be directed towards the poor sections of the society or for provision of health, education, communication, etc.

Thus, planning necessitates certain intervention by the state in allocation of resources, production of goods and services and distribution of the produced goods and services among people. The extent and quality of state intervention has been a debatable issue and there is wide variation across countries.

Notwithstanding the differences across countries in the degree of state intervention, planning can be broadly of three types: totalitarian, indicative and mixed. In *totalitarian planning* there is complete control by the government in allocation, production and distribution decisions. In order to retain complete control the government needs to own all resources and carry out production. As of today it is difficult to find a country with totalitarian planning. The erstwhile socialist countries came closest to this category. *Indicative planning* is just opposite to totalitarian planning. The government's role is that of a catalyst, it induces private individuals to take decisions according to plan objectives. Appropriate policy measures are taken in such a manner that the economy moves in the desired direction. Note that indicative planning is based on inducement, not control. Planning in France could be somewhat nearer to this model. In between these two categories lies *mixed planning* where government and private sectors co-exist. Planning in the South Asian countries fall under the mixed planning category.

An interesting example of indicative planning could be Indian agricultural sector. During the 1960s there was acute food shortage in the country. This was the period when India had to go to war with China and Pakistan. Moreover, there was severe drought for two consecutive years. This resulted in sharp rise in food prices and widespread impoverishment. The government launched a drive to increase agricultural production, popularly known as 'green revolution' through massive investments in seeds-fertiliser-water technology. Agriculture in India is in the private sector and there is no government control on cropping pattern and production technology. A farmer is free to produce any crop, invest, as much he feels appropriate and use any method of cultivation. In such a situation agriculture is almost out of control of the government. However, through appropriate policy measures it could increase yield of crops and total production. The government provided subsidies for purchase of high yielding variety (HYV) seeds and modern capital inputs as well as cheap electricity and finance. India achieved self-sufficiency in food grains by the 1970s and now it is an exporter of food grains.

In the changing scenario, indicative planning has come into prominence throughout the world including South Asian countries. Liberalisation and globalisation measures have reduced government controls substantially in industrial and service sectors also. As we will see later in Section 21.6 of this Unit, planning is still relevant in developing economies, although its nature and emphasis has changed.

Planning can also be categorised according to time horizon. It can be short-term, medium-term or long-term. Short-term planning is usually for a year or two. On the other hand, medium-term planning can be of five years while long term planning can range up to 15-25 years. Five year Plan (FYP) has been an accepted practice in South Asian countries. Within a FYP there are annual plan targets. Moreover, countries project a long-term path of economic development by drawing perspectives plans. Countries such as India have adopted FYP since the beginning. On the other hand, Sri Lanka has experimented with the duration of plan period. Earlier it followed three-year plan, then adopted six year plan and now it has switched over to FYPs.

21.3 PLAN MODELS

For proper execution of the plan strategy, a plan model is required. Model, in general terms, as you know, means some sort of ‘ideal’. Thus, when we say ‘a model agricultural farm’ we mean an ideal and efficient farm, which is worth imitating. Similarly, an architect builds a model of his building so that prospective buyers can have a clear idea on the structure. Here, the model is not exactly to size; it leaves out the minute details while capturing the major design and structure.

Along similar lines, the planners need to have a 'plan model' to help in carrying out the development plan. Usually, plan model is a mathematical model and reflects the quantitative dimensions of the plan. Thus, it can be seen as a collection of mutually consistent targets. The targets to be realised on the termination date of the plan and the steps required to achieve those targets are specified in a plan model.

Plan models can be of three types depending upon the degree of disaggregation: aggregative models, multi-sector models and decentralisation models. Aggregative models involve economy-wide (that is, total for whole of the nation) variables such as national income as well as total consumption, savings, investments, etc. Logically, these types of plan models leave out the sectoral and make projections for the national level aggregates only. Multi-sector models, on the other hand, involve both economy-wide variables and aggregates over groups of individuals and commodities (constituting sectors). The degree of disaggregation in decentralisation models reach up to project level activities. These three types are complementary to each other in a comprehensive planning. Aggregative models set the projections at the national level. This set of targets can be made consistent with sectoral targets through a multi-sector model. Finally, within each sector projections can be made at the project or activity level.

In South Asian countries formal development plans started during the 1950s. During that time plan projections were based on an aggregative plan model, mostly of the Harrod-Domar type. However, during the 1960s sectoral disaggregation was gradually introduced into plan models. The Mahalanobis model followed during the Second Five Year Plan of India (1956-61) divided the economy into two sectors and estimated sectoral targets. In subsequent Plans multi-sector models of the Leontief type are being followed. Over the years more number of sectors and sub-sectors have been considered while designing a plan.

The changing nature of plan objectives over the years also has necessitated multi-sector models. During the 1950s and 1960s growth and foreign exchange was the major concern of the South Asian countries. Thus, plan strategy focussed on maximisation of growth and conservation of foreign exchange at the national level, which was possible with an aggregative model. In the 1960s and 1970s self-sufficiency in food grains became a major concern. Moreover, poverty eradication and unemployment became the critical issues. Planning at the sectoral level was felt essential and multi-sectoral models came into prominence. For successful planning certain conditions need to be fulfilled. These are:

- A good plan model which is technically sound, economically feasible and within the capability of the country to execute;
- Realistic goals, which are practicable and compatible with one another;
- Appropriate policies and instruments to implement the plan;
- Appropriate administrative and technical apparatus to execute the plan; and
- People's participation in the plan: support by plan and policy makers, social groups, and general public.

21.4 SECTORAL APPROACH TO PLANNING

It is observed that all categories of industries do not have similar impact on the economy. Growth in certain industries works as a catalyst and fosters growth in other industries. For example, growth in industries producing intermediate inputs such as cement, steel, chemicals, etc., is likely to accelerate growth in consumer goods industries. Another instance is information technology, which increases productivity in other industries. Similarly, growth in industries such as pharmaceuticals is likely to improve general health conditions of people through increased supply of medicines. Thus, industries having backward and forward linkages can generate higher growth in the economy. Education, for example, not only increases the income of the person concerned, it provides qualified manpower to other sectors. On the other hand, growth in certain industries may have detrimental effects on the society. Thus, the government cannot be indifferent to these concerns, and therefore, cannot treat all sectors equally. The government needs to encourage growth in beneficial industries and discourage that of detrimental industries.

Secondly, all sections of people do not have the same level of income. Inequality in income distribution can arise because of inequality in asset ownership. Wide differences in wage rate across different types of employment could also cause inequality. While some categories of employment may have very high salary others are low income generating. In order to bring in equality in income distribution, the government should attempt to provide productive employment to poorer sections of the society.

Thirdly, private individuals are generally reluctant to invest in the development of social and physical infrastructure. For example, take the case of a road between two villages. No entrepreneur will venture to construct the road because of lack of profits. It may be difficult to compel the commuters to pay a price for using the road. Instances of a 'toll tax' on use of a bridge are there. But recovering the entire investment cost by taxing vehicles will take a very long time. Thus, individuals may not be interested in development of infrastructure. The government has to come forward to construct dams, roads, rails, ports, power plants, schools and colleges, etc. In recent years, governments in developing countries have invited private sector to invest in infrastructure such as roads and power. As an incentive, the governments usually have assured the investors of a minimum rate of return on their investments.

Fourthly, maintaining regional balance has been a stated objective of planning in developing economies. However, there is much diversity in per capita income (that is, per person), and in availability of economic and social infrastructure across regions. You might have observed that all states in a country are not developed equally. Certain states are much ahead of others in terms of indicators of development. Even within the same state all regions are not equally developed. In India, for example, although the economy as a whole has accelerated, the growth rates of different states have diverged. Some of the poorest states have actually seen a deceleration in growth thereby increasing inequality. This has serious consequences for regional balance and national harmony.

Thus, a sectoral focus on planning is essential. Planning has to set targets at the national level. This should be reinforced by a consistent set of targets at a disaggregated level. Disaggregation can take place along three lines.

First, there should be a state-wise breakdown of the broad national level developmental targets. These state specific targets should take into account the potentialities and constraints present in each state and the scope for improvement in performance given these constraints. This will require careful consideration of the sectoral pattern of growth and its regional dispersion. It will also focus attention on the nature of reforms that will have to be implemented at the state level to achieve the growth targets set for the states.

Second, planning should undertake disaggregation on the basis of production sectors such as agriculture, industry and services. Targets should be set for growth rate in each sector. Very often, sectoral disaggregation and regional disaggregation are inter-linked. For example, eastern states in India are economically under-developed. Agriculture in these states contributes a very high share to the state economy and is the main source of livelihood. However, because of inadequate irrigation facilities, excessive dependence on rainfall and non-application of modern technology, agriculture has a very low yield or productivity. This results in low income of the people. Appropriate planning strategy can increase yield of crops grown in the area by investing in creation of irrigation facilities, R & D in rain-fed agriculture and provision of subsidised agro-inputs.

A third level of disaggregation could be on the basis of social income groups. Plan strategy should put more income in the hands of the poorer sections. Thus redistribution of income can pave the way for an egalitarian society.

In all the cases, however, consistency between national and sectoral targets should be maintained.

As mentioned earlier, planning can be seen as a mechanism of government intervention. Government can undertake production activities in cases where private investment is not coming forward. Moreover, it can give a direction to growth in different sectors according to plan objectives. Appropriate policies can be formulated to realise such objectives. Taxation and subsidies are two such mechanisms. The government may impose higher taxes on non-priority sectors while it may give tax concessions or subsidised inputs to priority sectors. You might have observed that the information technology sector is exempted from taxes and offered several concessions in developing countries (e.g., India). On the other hand, higher rate of taxation has been imposed on tobacco, breweries, etc.

21.5 SPATIAL CONSIDERATIONS

While drawing out a plan it is essential to take spatial factors into account. Location of industries and other production activities is quite important for a balanced regional development. The following two Units on Central Settlements and Central Place Theory will help you understand it better. Spatial considerations are important because:

- Natural resources are located at spatial sites. Certain minerals are available at specific regions or sites. These geographical constraints somewhat forces us to set up industries at sites nearer to the location of the required input. In certain cases it may not be possible to transfer inputs from one location to another. Even in the case where it is possible to carry the inputs to another site, it would add up to costs of production.
- Profit motive would suggest an entrepreneur to set up a material intensive industry nearer to the raw material site. It would reduce his cost of production and increase his profits. However, there are other factors that influence his decision. For example, availability of basic physical infrastructure facilities such as electricity, roads, railways and communication, and social infrastructure facilities such as health and education.
- Let us consider the case of industries that are not raw material intensive or do not require big scale operation. Here it is quite advantageous to set up an industry in an urban centre. Availability of physical and social infrastructure as well as a market for the product in the form of urban population with relatively higher income has prompted concentration of industries in urban centres. Thus the disadvantages associated with rural areas need to be compensated through several concessions such as availability of subsidised inputs and tax holiday. The objective is to create an operational environment where cost of production is not higher in rural areas compared to cities and urban centres.

In order to counter the concentration of industry, governments usually pursue a location policy. In India, for example, an entrepreneur does not require a license to carry out production in any industry (except those in the reserved list, which includes six industries at present) subject to location policy and environmental clearance. The location policy earmarks specific land areas for setting up industrial units. Within a city various zones are identified as industrial and residential areas. Industries can be set up in industrial zones only. Secondly, industries should be away from large urban centres. The objective is to de-congest cities and develop rural areas. Environmental clearance is required in certain categories of industries, particularly the polluting ones. It requires industries to comply with pollution abatement technology. The purpose is adoption of less polluting technology and processing of effluents.

Apart from the spatial issues, there are certain social concerns that need to be considered while formulating the plan.

- Private costs and social costs are often different. Individual entrepreneurs look into private costs and benefits that accrue to them. For example, owner of a paper mill is very unlikely to take into consideration costs borne by people in surrounding areas due to depletion of forest resources or health hazards due to releasing of effluents to the water stream nearby.
- Inputs are usually scarce and available in limited quantity. Moreover, inputs can be put into alternative uses. Thus efficient utilisation of inputs is necessary.
- Natural inputs are exhaustible in nature. These can be utilised only once - either today or in future. If it is exhausted in the present in that case it will adversely affect production in future. Thus sustainability of production over generations is a price concern.

Spatial planning requires that planners should take into account the available resources in the country and check for material balances. This would optimise the utilisation of resources, economise on production costs and maximise economic growth.

21.6 RELEVANCE OF PLANNING IN CURRENT SCENARIO

A question comes to mind: Is planning necessary today? In recent years the dominant view in economic development literature has been liberalisation and globalisation. Government controls over industries have been withdrawn in many aspects. Competition, both from within the country and outside, has been encouraged. Individuals are free to set up industries and carry out production. A person can produce whatever he likes. In such a circumstance the government appears to have little control over growth and sectoral composition of output. So what is the need for planning and what avenues are left for the government to intervene in the production process?

During the 1960s and 1970s the dominant economic view prescribed a strong public sector. Moreover, it suggested state intervention in the process of industrial development through stringent regulatory measures. In such a command and control policy regime, bureaucratic controls permeated into every sphere of production activities. Licenses and permits were required not only for setting up an industry but also for expansion of capacity, import of machineries and other inputs, location of plant and foreign capital. The underlying logic behind regulation could be summarised as follows:

- It was used as a tool to steer the economy in the desired direction according to plan priorities. Capital was a scarce resource at that time. Hence licensing was a medium of regulating growth rate in different sectors of the economy;
- In order to maintain a socialistic pattern of society it was necessary to control the growth of monopoly capital. Thus, licensing was a tool to regulate growth of monopoly in the economy;

- Foreign capital was seen with some suspicion. Multinational corporations were seen as a means of economic exploitation and even a threat to the sovereignty of underdeveloped countries. Thus, foreign equity participation required additional permission to be obtained; and
- At that point of time foreign exchange was a major constraint for developing countries. Thus, precious foreign exchange was to be spent according to plan priorities. This prompted the countries to look 'inward' and the policy outcome was import-substitution for producing within the country rather than importing it. Foreign exchange conservation was the prime objective, not cost considerations.

The consequence of the command control regime was technological backwardness, higher cost of production and lower growth. It was a safe heaven for producers: there was no competition from potential domestic investors because of stringent licensing procedures. Also there was no competition from abroad, high rate of tariffs (import duties) and increased cost of imported goods. Moreover, quantitative restrictions of imports put a ceiling on the type of commodity and its quantity to be imported. Licensing policy also affected the supply to the market. It bestowed too much discretionary power in bureaucracy and generated a 'rent-seeking behaviour' by the bureaucrats, which led to corruption. Ultimately it adversely affected supply of goods and services to the market. In the absence of competition and assured demand for their products the producers did not look into cost of production, quality of goods and technological up gradation. The cost was ultimately borne by the consumers in terms of higher price and low quality for goods.

During the 1990s, there was an about-turn in policy prescriptions. Two changes have been observed over the years. First, command and control measures have resulted in a 'government failure' - instead of inducing growth this apparatus has curtailed growth rate of the economy. Thus, de-regulation of industries and lesser government intervention have been the prescription of the day. Secondly, developing economies are now pursuing an 'outward looking' policy. Export promotion has been the catchword. Foreign capital is being invited because of its positive effects- it brings in modern technology, it supplements investment in the country, and it helps in exports. It is now being increasingly felt that external trade is beneficial to both importing and exporting countries, irrespective of their levels of development.

Thus, in the present scenario one can:

- Set up an industry in any part of the country without the hassles of obtaining a license;
- Import machinery and other inputs without restriction; and
- Enter into a joint venture with a foreign partner.

Thus, the government seems to have little control over growth of industries. It is within the discretion of the producer to decide on the type of product (what industry to set up), location of plant (where to produce), production technology (whether labour intensive or capital intensive), scale of production (size of plant), and foreign collaboration (its nature and percentage). Thus, what is the scope of planning in this environment?

At the external front, the World Trade Organisation (WTO) is harping on free trade among nations. The member countries of WTO are required to abolish quantitative restrictions (quotas) on imports. So the government can regulate imports and exports through taxation measures only. Secondly, the WTO is prescribing cutting down on government expenditure, abolition of subsidies and reduction in fiscal deficit. The implications are that one can:

- Export any product (which would reduce domestic availability); and
- Import any amount of durable and non-durable consumer goods (which would compete with domestic products).

The combined impact of all these factors ultimately reduces the role of the government. Market forces, viz., demand and supply conditions of commodities, have a major role to play. Price mechanism has been the most important factor in decision-making. In such conditions, the role of planning has also undergone change. Social objectives have become more relevant. Planning in the new scenario has to give emphasis more on the development of social sectors. It has been observed in many countries that inequality increases in the wake of liberalisation and starts declining after the lapse of some time. When we plot the relationship between inequality and time in a graph we get an inverted U-shaped curve. It is often termed as 'Kuznet's Curve' to give due recognition to Simon Kuznet, an economist who propounded this relationship.

The increase in inequality implies that rich gets richer and poor gets poorer. In such a condition, planning has to ensure that the poor and low-income segments of the population are not adversely affected. This necessitates provision of social security measures to these segments. Apart from provision of social infrastructure such as education, health and sanitation, the state also has to devise some mechanism so that these people get a regular flow of income. Such efforts will help in bringing the poorer segments above the poverty line. Public distribution system, unemployment allowance, insurance against loss of job, etc., could be various schemes in this direction. Employment guarantee scheme has another positive effect beside provision of job to unemployed – it increases the bargaining power of unskilled labour to demand for fair wages.

The changing emphasis on social sectors can be appraised by looking into the objectives of the Tenth Five Year Plan (2002-07) of India. The monitor able targets set by the government are the following:

- Reduction of poverty ratio by 5 percentage points by 2007 and by 15 percentage points by 2012;
- Providing gainful and high-quality employment at least in addition to the labour force over the Tenth Plan period;
- All children in school by 2003; all children to complete 5 years of schooling by 2007;
- Reduction in gender gaps in literacy and wage rates by at least 50 per cent by 2007;
- Reduction in the decadal rate of population growth between 2001 and 2011 to 16.2 per cent;
- Increase in Literacy rates to 75 per cent within the Plan period;
- Reduction of Infant mortality rate (IMR) to 45 per 1000 live births by 2007 and to 28 by 2012;

- Reduction of Maternal mortality ratio (MMR) to 2 per 1000 live births by 2007 and to 1 by 2012;
- Increase in forest and tree cover to 25 per cent by 2007 and 33 per cent by 2012;
- All villages to have sustained access to potable drinking water within the Plan period; and
- Cleaning of all major polluted rivers by 2007 and other notified stretches by 2012.

Source: Tenth plan document, Government of India

Thus we observe that planning is still relevant although it has become more and more 'indicative' in nature.

21.7 ACTIVITY

1. Go through the plan document of your country. Find out the type of plan model it follows. Collect information on the duration of the plan, important sectors taken into consideration and sectoral targets.
2. Suppose you are designing a development plan for your organisation, what insights would you draw from sectoral and spatial planning? Elucidate.

21.8 CONCLUSIONS

Public policies in South Asian countries are manifested in national and sectoral plans. Over the years, most of these countries have been following five-year plans. Each country has its own priorities but certain common goals such as growth, efficiency, regional balance and poverty eradication have been followed. Plan models followed in these countries have been of multi-sectoral type. Sectoral approach to planning is necessary for attaining regional and sectoral balance as well as full utilisation of resources. Spatial considerations in planning looks into the availability of natural and human resources in different parts of the country and their utilisation. Consistency among sectoral targets is an essential component of national plans.

21.9 REFERENCES

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