

PROBLEMS OF REGIONALIZATION FOR THE DEVELOPMENT OF NATIONAL ECONOMY

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SUMMARY. Utilization of the available experience in regionalization for national economic development encounters a number of difficulties. These are due to inadequate preliminary studies, incompleteness of statistical data, the lack of proper estimates for long-range targets of national economic development, a tendency towards economic autarchy in some parts of the country.

To be effective the regionalization calls for a high level of national planning, a proper relationship between the national (principal) and local goals, a permanent development along the road of social progress.

INTRODUCTION

During the last few years close cooperation between the Indian and the Soviet scientists was started for studying the problems of regionalization. This cooperation involved useful discussions regarding the principles and methods of regional studies and defining lines of further researches.

The purpose of the paper is to draw attention to some important aspects of the problems of regionalization. The principles regarding which there is a common approach by both the Indian and the Soviet scientists are discussed. Some problems which are solved in peculiar ways by each country are also discussed.

IMPORTANCE OF THE PROBLEM

The building of national economy in the less developed countries requires comprehensive utilization of natural resources and manpower as also fundamental changes in the structure and distribution of the economy. This accounts for an increased interest in the problems of regionalization and in the study of the geographical situation, physical environment and economic potentialities of various regions as parts of the national economic set-up.

It is necessary to take into account the possibilities of the resource development of each region in coordination with national targets for the establishment of a stable national economy and drawing in its creation the whole population of the country.

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Regionalization is important for every country, especially for the countries with vast areas, diverse natural resources and economic conditions and a mixed ethnical composition of the population. The problem is very important for the countries with growing number of public sector undertakings.

Much of world experience in regionalization has been accumulated by now. It must be put to use with due criticism. Special attention is required for the problems of general economic (integral) regionalization that have direct bearing on national economic planning. The socialist countries have great experience in such regionalization which is a basic feature of their national economic planning.

REGIONALIZATION IN THE USSR

Methodology. General economic regionalization in the USSR is based on the following principles.

(a) An economic region is a part of the country, an objective reality which arises as a result of territorial division of labour.

(b) Regionalization is based on economic principles. This does not exclude rather emphasizes the necessity to take into account regional natural resources, its manpower and cultural heritage of the past. It should, however be remembered that in the final analysis it is the process of production that binds all these elements together and with the territory itself. Here lies the reason that one-sided "market zone" orientation is unacceptable as a base for economic regionalization.

(c) A region is defined as a territorial-production complex with a combined structure of economy which at the same time has pronounced specialization. The leading industries of a region are interlinked and constitute the core of the territorial-production complex. Such large economic units arise on the basis of common territory (integrated transport system, integrated systems of power generation and water-supply etc.), concentration, extraction and processing of raw materials and by-products in the same region by successive stages. The establishment of such units also involves industrial cooperation, close technological combination of industries, (especially the latest modern industries), effective use of the available labour force and a number of other important factors. Many associated and auxiliary industries arise in connection with the basic industrial framework of a region.

Economic specialization of each region should be encouraged only within reasonable limits as undue emphasis on specialization may involve excessive expenditures on inter-regional transportation, underexploitation of the potentials of a region and instability of its economy.

(d) An integral economic region develops in the process of productive activity of its inhabitants. It changes not only in time but also territorially as it may expand or be broken down into smaller regions. It is, therefore, essential, when delimiting a region, to take into account not only the present or past developments but also its

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*projects which can be evaluated on the basis of the potentialities against the background of nation-wide economic development programme. The relative instability of the boundaries of economic regions suggest the necessity to follow closely their evolution and to revise from time to time the general pattern of regionalization.

(e) Economic regionalization is based on the principle of maximum productivity of social labour within each region as well as in the whole system of regions. This very important criterion makes it possible to test in the course of a regionalization programme the effectiveness and vitality of economic specialization that has arisen in or is being planned for an economic region. It can also provide a measure of the effectiveness of allied and auxiliary industries that develop in connection with the regional basic industrial framework.

(f) General economic regionalization provides a scientific basis for regional economic planning and is thus the objective fundamental principle for the administrative division of a country. The proper correlation of economic regionalization and the division of a country into national-administrative regions are of special significance. If this correlation is to be achieved economic regionalization should provide broad opportunities for the development of all nationalities of a country and should not infringe on the rights of national self-governing territories. Small national territorial units may be subdivisions of an economic region while larger national regions may constitute an economic region each. National regions with very large territories may consist of several economic regions.

METHODS OF REGIONALIZATION

As regionalization involves a great variety of diversified factors it cannot be implemented without adequate statistics on the natural features and conditions, population and economy of the country concerned. Economic regionalization which makes wide use of statistics on the natural resources of a country is to be preceded by the investigation in physico-geographical regionalization. It has, however, been found from experience that physico-geographical natural regions do not coincide with economic regions, although, they do indicate in a general way the territorial distribution of natural resources. Moreover, economic regions include very often parts of different physico-geographical regions because diversity of natural resources is essential for the development and effective functioning of a given territorial-production complex.

Industrial and agricultural development plans for integrated utilization of the resources of a region may be used for advantage of bringing out the main development centres of economic regions or their "nodes". The availability of a long-term programme for the economic development of the country concerned is of special importance in any regionalization.

The first stage of general economic regionalization of a country is the elaboration of a draft plan for the territorial distribution of its chief industrial and

agricultural production bases. Such bases are outlined either as combinations of industries or production complexes.

The first stage of regionalization also includes the elaboration of the basic economic set-up of the regions to be delimited and their basic specialization trends ("project method"). These two factors determine the fundamental conception of a region and are used to trace its preliminary geographic boundaries. When delimiting an economic region due account should be taken of the geographical distribution of major industries. An economic region should also incorporate adjacent territories which have resources vital for the effective operation of the region's production complex. The first stage of regionalization should besides that reveal the region-forming role of major economic centres and cities.

An important factor for elaborating an optimal structure of regional complexes is inter-relation of various industries which is an objective phenomenon. The most important consideration in this respect is the economic effectiveness of the combination of the elements in the regional production complex (combination of leading industries; combination of leading, associated and auxiliary industries; correlation of industry, agriculture and transport).

Professor Kolosovskiy suggested a useful method of "power production cycles", i.e., combinations of typical production processes that can be used for evaluating the role of technology in the formation of regional complexes. Such cycles include the pyro-metallurgical cycles, the oil-power and chemical cycle, a group of hydro-electric and industrial cycles and so on.

The next important stage of regionalization is a detailed analysis of economic ties within the region and its economic connections with the rest of the country. The analysis of these inter-and intra-regional ties, both already established and in the process of formation, is supplemented by a study of the transportation system and ways and means of its improvement. This work outlines the role of the region in the country as related to other regions and makes it possible to adjust the economic pattern of the regional complex and its boundaries. Mathematical programming for analyzing transportation within and between economic regions may be used with advantage for the purposes mentioned above.

Closely connected with the second stage of the regionalization programme is its third stage which is aimed to divide the region into smaller economic units and to determine an inner network of centres (nodes) and territories gravitating towards these centres. It should be emphasized that as a result of industrialization a growing number of regions receive a nodal structure.

The division of the territory of a region makes it possible to adjust with greater accuracy the boundaries of the region that has been delimited as well as its economic structure.

The basic principles of integral regionalization evolved above may be applied not only to delimitation of a major economic region, but with certain modifications

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are also of use for delimitation of smaller economic units. Smaller internal sub-regions have usually more pronounced economic specialization and less developed associated and auxiliary industries. The factor of economic gravitation is of paramount importance for delimiting the smallest territorial units.

The regionalization programme also includes at its final stage elaboration of a number of balance sheets. The balance sheet method is gaining ground as modern computers and computation techniques make it possible to study in greater details the economic structure of regions, to draw up integrated inter-industrial and inter-regional balances of production and distribution of commodities and to build economic and mathematical models of planned economy for separate regions and the country as a whole. These new methods are intensively worked out in the USSR.

THE REGIONAL FRAMEWORK IN THE USSR

The first attempt at delimiting large economic regions for planning purposes was made soon after the formation of the Soviet State when on V. I. Lenin's initiative an electrification plan was drawn up for Russia.

The macro-economic regions, delimiting USSR, are large specialized production complexes of the industrial and industrial-agricultural type. In the Asiatic part of the Soviet Union such regions have smaller populations while their territories are much larger than in the European—more densely populated part of the country.

The Russian Federation and the Ukrainian Soviet Socialist Republic which are the largest Union Republics in respect of population are sub-divided into several major economic regions.

Each major economic region includes a group of smaller closely interconnected production complexes which constitute the economic base of small Union Republics, Autonomous Republics and such administrative units as "kray" and "oblaste". These meso-regions are in their turn sub-divided into more fractional regions.

The framework of economic regions in the USSR is modified in accordance with economic development and also due to improvements in the methods of regionalization. The administrative division of the country is also revised from time to time.

THE EXPERIENCE OF INDIA : MACRO-REGIONS

The need for regional approach to planning arises because of the sharp regional contrasts in respect of natural conditions, distribution of resources and levels of economic development, which are common to countries of large size like the USSR and India. In the USSR, regionalization for planning is always considered as an important aspect concerning the development of the national economy. Identification of regional production complexes which arise as a result of interaction of productive forces is the salient feature of delimitation of economic regions in the USSR.

A macro-economic region thus delimited is large in size and includes parts or whole of different natural regions, agricultural regions etc., so as to make it an economic region having maximum self-sufficiency in respect of such resources that are necessary for its rational economic specialization.

The primary aim of such maximum self-sufficiency is to avoid long haulage of goods which are bound to be uneconomical in a country of long distances, separating the region of production and consumption. Macro-economic regions serve as a useful link between regions of the lower order and the nation as a whole in respect of the development of the national economy.

There are in India some major aspects of planning like the development of basic and heavy industries which are vital to the development of the national economy and also induce regional development at a faster rate. But the natural resources like minerals, forests and power potentials are highly localized and hence there is need for identifying broad regions (macro-economic regions) to include group of states or even part of different states for purposes of efficient production and utilization of their resources. In other words, each macro-economic region would tend to develop production complexes for which the region has the best advantages. Such an approach will have far reaching effects on the competing tendency of each state to develop basic and heavy industries. Pending more detailed studies six macro-economic regions emerge based on the distribution of resources and possibilities of developing the regional production complexes.

(1) South India: comprising Madras, Kerala, Mysore states and major parts of Andhra Pradesh state with their three nuclei of industrial complexes that are likely to develop around Bhadravati (iron ore, manganese, power and forestry resources), Neyveli-Salem (ironore-lignite) and Horpet-Sandur (ironore-making use of coal from Singareni).

(2) Western India: comprising two states—Maharashtra and Gujarat with the production complex rooted to textiles and associated industries and the newly emerging oil fields.

(3) Central India: comprising Madhya Pradesh and Uttar Pradesh states (industrial complex based on iron ore from Chanda-Bastar area and coal from Singareni-Damodar coal fields).

(4) North-Eastern India: comprising Bihar, West Bengal, Orissa states and parts of Uttar Pradesh with the industrial complex of the Damodar region as the base.

(5) North Western India: comprising Rajasthan, Punjab, Union Territories and Jammu and Kashmir (power from Bhakra-Nangal and minerals of Aravalli hills and coal from Rajasthan).

(6) Assam: production complex based on forestry and minerals. This forms actually part of the North Eastern India with Calcutta as the major node port.

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It should be mentioned in this connection that the proposed framework of regions for power development roughly commensurate the boundaries of the macro-economic regions. This raises the question what factors should be considered in the delimitation of macro-economic regions in further detailed studies?

The emerging picture of the macro-economic regions could then be adapted to the administrative structure.

Since regionalization is for the development of national economy by the achievement of maximum productivity in each region and in the system of regions as a whole with the aim of securing an approximate regional balance of national economy, these regions should have their own economic specializations. Each will have certain production advantages which will have to be tapped to its maximum possible extent. The results of comparative production advantages will finally be distributed among all regions through trade. But there should be some sort of balance, that is, the balance in export-import situation, since a region cannot be planned to depend economically on other regions for a long time.

Naturally, macro-economic regions need not be homogeneous. They are rather heterogeneous in one or more characteristics, but they are unit areas—functionally or in relation to possibilities of economic specialization and development of associated and auxiliary industries.

The Indian Statistical Institute carries out some experimental works for applying the concept of macro-economic regions in planning. In a long-term planning some sort of balance in export-import situation between each region and the rest of India, together with other countries, should be achieved. This involves inter-macro-regional, inter-industrial and inter-temporal study.

Professor Mahalanobis did the inter-industrial (or the inter-sectoral) study for the nation as a whole in formulating the five year plans of India. He proposed four-sector national model. V. G. Bhatia of the Indian Statistical Institute has developed a theoretical multi-regional, multi-sectoral programming model for economic development. But there are many difficulties in using these works because of the lack of full data needed.

Shri Pitambar Pant of the Planning Commission, India and of the Indian Statistical Institute suggested a short cut method for getting quick results needed at this stage of continued planning. According to him, since a macro-economic region, e.g., South India should be planned to be economically self-supporting within a period ending, say, in 1975-76, we can first (a) estimate the requirements of commodities for South Indian consumption in 1975-76; then we can examine (b) how much of these commodities would possibly be produced in South India, (c) how much of them must be imported and lastly (d) whether the cost of additional commodities produced in South India is more than the cost of imported goods. The work is in progress in this line in the Regional Survey Unit of the Indian Statistical Institute.

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Since household consumption of commodities were available in details for 1957-58, estimates of total South Indian consumer expenditure were made from these data for different population fractiles when per capita consumer expenditures had been in increasing order. Here we postulated an annual increase of total household consumption and a more rapid increase in per capita consumer expenditure in the population classes of lower consumer expenditure. The detailed table showing the requirements of commodities for total South Indian consumption in 1975-76 had been worked out knowing the household consumption and using the existing inter-industrial and other relations (government consumption, capital formation, stock etc.).

Having determined the requirements of commodities for South Indian consumption in 1975-76, we should examine the capacity of production and finally the export-import of commodities. The detailed quantitative values for the production and the export-import relation are just being worked out at present. In this work various latest quantitative methods are applied.

THE HIERARCHY OF REGIONS

A careful study is necessary for the problem of evolving a hierarchy of regions within macro-economic regions. The need for identification of such regions in a macro-economic region is to implement the action programme easily and rationally in the context of developing the macro-economic region.

Regions for resource development or planning regions are distinct from other regions. There are different types of planning regions: a river basin, a soil conservation district, a major endemic famine zone, an area of chronic unemployment or of a major development project. These are unique and ad hoc planning regions, and should not be confused with regions for over-all resource development. Should a planning region be a composite (integrated) region? Instead of composite planning region, should we have more than one type at least in the early stages of economic transformation? Then there are market regions, urban fields, industrial regions, but can we separate the different sectors of resource development into water-tight compartments particularly when integrated and balanced regional development is our goal? Here, there is scope for systematic research on the theory and practice of regional concept.

Since the administrative units (states districts) are the main authorities in the execution of the plans, it has become necessary to identify a suitable framework of fractional (detailed) regions for over-all resource development and to adapt it to the administrative structure. Here the assumption is that administrative units can function as unit areas for planning, so long as the regional components are given due weightage.

Based on the analysis of distribution of resources, regional pattern of development and potentials, a tentative framework of fractional regions and subregions (so-called formal regions) for regional planning is identified in India. Boundaries of

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These regions and subregions are adapted to the nearest district boundary to facilitate the formulation of rational policy relating to each region's norm of development with minimum deviation from the existing administrative set-up. As a rule the subregions are identified within each given State. At the same time, in typological sense, they are grouped in eleven major regions.

Areas around the metropolitan cities are treated separately since the problems for development in these areas are distinct from the rest. Likewise the Godavari through Telegana, Rayalseema, Coimbatore plateau and Mysore plateau are treated separately as they do not strictly conform to the envisaged regional framework. It must however be stressed that regions for resource planning must remain flexible as their character changes during the phase of economic development changing technological possibilities and development policies.

The delineation of underdeveloped areas in macro-economic regions is another important problem. The selection of components of development is a difficult task. The lack of detailed areal data further adds to the problem. An attempt to elaborate a tentative framework of regions with different development level was undertaken by M. N. Pal (Indian Statistical Institute) relating to South India's macro-economic region.

For each district of South India eight components were selected (indices of concentration of total industrial labour, factory workers, male immigrants, labour employed in transport and commercial services, population employed in services, index of urbanism, index of land productivity). All the eight components were combined by the method of principal component to get a final composite index of development. Combination, however, have been possible by considering the relative economic importance of each character. The results were mapped and the regional grouping of districts did emerge out of this.

The nature of development of each region, especially less-developed, was analyzed and the preliminary observations on strategy of regional planning were formulated. These preliminary observations are quite helpful in working out the production figures.

We can determine the preliminary estimate of total investment for each of such regions when total investment of the macro-region as a whole is known. Since one of the main objectives of regional planning is to reduce disparity of economic development between regions it is logical to assume that the perspective rate of growth of per capita income for each region should be inversely proportional to the composite index of its present stage of economic development. Then some adjustments of preliminary estimates of investment should be done, in conforming to the expenses of the projects to be undertaken with due consideration of regional potentialities and income generation.

CONCLUSIONS

Some important aspects of regionalization and regional planning have been illustrated. But such planning has to be done within the wider frame-work of economic planning for the nation as a whole, i.e., for the totality of all macro-economic regions; this is essential. Much further work will be necessary not only on regionalization but also on other connected and essential questions, among which may be mentioned,

- (a) the perspective structure of national economy in the system of macro-economic regions with the *fundamental objective* of optimizing the national income to be generated by the rational utilization of all productive forces of the system;
- (b) the relative level of economy that can be achieved in different macro-economic regions in the context of the above perspective; and
- (c) the relationship among different macro-economic regions, of the system in respect of the distributive aspects of the economy.

The solution of all these questions would necessarily involve the choice of social objectives and production targets. For example, the rational choice of location of an industry may go in favour of one macro-region from considerations of the maximization of the national income, while the same choice may go in favour of another macro-region from considerations of reducing macro-regional disparities in the level of production. In such a situation, in initial phases of development, the location of large scale modern industrial enterprises should be decided on grounds of the generation of maximum national income together with a concurrent policy of redistribution of national income to reduce disparities in the level of living of the people with preferential treatment for the welfare of less-developed macro-regions or sub-regions.

However, researches and experiments are going on in India, in the Planning Commission in which the Indian Statistical Institute is participating to study these problems.

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