

THE GROWTH POLE THEORY IN REGIONAL DEVELOPMENT:
A GENERAL MODEL FOR LESS DEVELOPED AREAS

by

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B. A., Haile Selassie I University, 1969

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

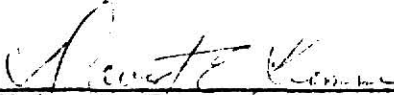
MASTER OF ARTS

Department of Geography

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1974

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Acknowledgment

I would like to express my sincere appreciation to Professor David E. Kromm under whose painstaking direction and guidance this study was undertaken. His unreserved and candid criticisms and suggestions have been most useful in conducting and completing the study.

I also wish to extend my special thanks to Professor Harvey J. Littrell, Professor W. R. Siddall and Professor H. L. Seyler for their sincere and encouraging help throughout my two years at Kansas State University. I have greatly benefited from their personal warmth, professional guidance and exemplary work ethics.

My appreciation is extended to all other faculty members of the geography department, the graduate and undergraduate student body whose warm friendship, humor and encouragement have made my personal and educational experience as a student at Kansas State unforgettable. Finally, I would like to express my thanks to Linda Sedlacek, the secretary of the geography department, for all her assistance.

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CHAPTER I

INTRODUCTION

One of the realities of the contemporary world is that the vast majority of its population lives in what has been popularly termed as the "Third World." In socio-economic terms, the countries of the third world are variously referred to as "developing," "emerging," "underdeveloped," or "less developed." These names largely apply to the states of Africa, Asia and Latin America, though there are countries on other continents which belong to this category of nations.

The emergence of these various large and small political and socio-economic entities as independent nations from colonial or semi-colonial subjugation has been accompanied by increased interest in the transformation of their largely spatially restricted, traditional societies into modern, spatially interdependent exchange societies. In order to overcome their economic backwardness and meet the deep-rooted challenges of widespread poverty, illiteracy, disease, and other socio-economic problems, these countries face the difficult task of creating the institutional and organizational structures that would facilitate the realization of their development objectives. In response to these demands most developing nations have resorted to the policy of instituting a national plan of socio-economic development emphasizing specific sectors of the national economy. The attempt of many less developed countries to change the demand and supply structure in the agricultural, mining and industrial sectors illustrates the desire of these countries to use hitherto unexplored, unutilized or under-utilized resources for high growth rates in the economy. They do this

with the hope of setting in motion expansionary forces elsewhere in the economy and laying down the structural organization for sustained socio-economic development.¹

Since the less developed countries range from those that are at the pre-industrial stage characterized by traditional and primitive production techniques to those that have attained the threshold for take-off or sustained and self-generating socio-economic growth,² the success of their national plans would be expected to vary significantly. In spite of these differences, practically all of the less developed countries have dualistic economies wherein a small fraction of the total population participates in the commercial sector which often serves as an export market, whereas the vast majority remain in the semi-subsistence or subsistence sector, mainly engaged in the production of food crops.

Such an economic reality has created two rather distinct elements in the socio-economic and political landscape of less developed countries. The urban element, which is usually characterized by the dominance of a primate city, as a superior unit and the vast rural periphery as an inferior socio-economic unit.³ The differences between the core and the periphery in effective political power, income level, educational opportunities and in other socio-economic variables is striking. Since there is a general tendency among less developed countries to spend heavily on consumer goods and

¹Gerald M. Meier, *Leading Issues in Development Economics* (New York: Oxford University Press, 1964), p. 22.

²*Ibid.*, p. 13.

³H. W. Singer, "Dualism Revisited: A New Approach to the Problems of the Dual Society in Developing Countries," The Journal of Development Studies, Vol. 7, No. 1 (October, 1971), p. 60.

concentrate investment in urban services, the rural periphery, which is almost invariably engaged in extractive activities, is ignored or at best given only marginal attention. Such a dualism is not only spatially inefficient because vast resources are under-utilized but also highly dangerous from a political standpoint since it inevitably leads to excessive regional differences in socio-economic development which creates discontent and weakens national cohesion.

Under such a colonial center-periphery socio-economic and political relationship, the need for the organization of geographical and economic space in such a manner that both high rates of economic growth and structural transformation could be facilitated more equitably is urgent. The socio-economic advantages and desirability of a regional developmental strategy has been pointed out by economists, statesmen, planners and other professionals.⁴ I believe that such measures of economic development and growth as increases in gross domestic product, per capita income, industrial production and social welfare can be realized by the creation and application of an institutional framework based on a policy of regional development. As Colm and Geiger point out, development planning is "a deliberate, rational continuous effort by governments to accelerate the process of development and to channel it into desired directions by means of the comprehensive and detailed choice of objectives and the determination of allocations of the resources necessary for their achievement."⁵

⁴ John Friedman and William Alonso, Regional Development and Planning (Cambridge: The M.I.T. Press, 1964), p. 8.

⁵ Gerald Colm and Theodore Geiger, "Country Programming as a Guide to Development," in Development of the Emerging Countries: An Agenda for Research (Washington, D.C.: The Brookings Institute, 1968), p. 46.

Many writers on socio-economic development support the regional approach from differing points of view. Lichfield sees the rationale for approaching socio-economic development from a regional strategy as follows.

The region is the level of interaction in many ways, the level at which coherent patterns become discernible and the coordination of different policies rewarding. It is at the regional level that the needs of industries-transport, trained manpower and so forth can be best related, and input/output relationships and other linkages analyzed without, as may happen from a national viewpoint losing sight of the effects of various factors on individual firms and the consequences of various policy measures for them. The region can act as a link between central and local plans and between other central and local relationships and it's also the level at which the economic and physical components of a plan can best be integrated.⁶

I believe that there is scope for action at the regional level without depriving the central government of its right to design and fix policies and priorities and to implement those selected policies. A centralized process of decision making and the concentration of socio-economic and political development at a center would certainly create a situation in which regional aspirations and frustrations could not be properly appraised. In the long run, such a development creates regional apathy and dissatisfaction that could ultimately express itself in a violent manner. Thus the less developed countries of the world will have to incorporate a regional approach of socio-economic development within the larger framework of their national development plans.

The Problem

A closer examination of the spatial pattern of socio-economic

⁶N. Lichfield, "Scope of the Regional Plan," Regional Studies, Vol. 1, No. 1 (1967), p. 15.

development in the less developed countries of Africa, Asia and Latin America yields the familiar picture of regional disequilibrium in which a primate city or giant metropolis is set against a background of an extremely primitive hinterland of lagging regions. The situation is further complicated by the rather immature complexity of the larger cities which are basically parasitic in their structure. They not only attract the bulk of the scarce capital and skill of the nation to maintain the high rates of urban economic growth but also present tremendous development problems by creating monstrous slums, congestion and an inadequate system of essential city services such as water supply, electric power and sewage treatment. On the other hand, the large rural hinterland languishes in a state of neglect without investment opportunities and clearly defined development policies and programs. The hinterland is generally characterized by high rates of illiteracy, high dependence on primitive agriculture, rural population pressure, outmigration and general socio-economic stagnation.⁷

Because of the unchallenged primacy of the capital cities in most less developed countries, development in modern terms is almost invariably measured with reference to what is happening in these centers. The problem has been expressed well by Friedman and Alonso:

In transitional societies, the regional problem thrusts itself on policy makers during the period of early industrialization when, for a variety of reasons, activities come to be concentrated in one or a few centers. These centers not only grow so rapidly as to create problems of an entirely new order, but they also act as suction pumps pulling in the more dynamic elements from the more static regions. The remainder of the country is thus relegated to a second-class,

⁷Friedman and Alonso, pp. 40-41.

peripheral position. It is placed in a quasi-colonial relationship to the center, experiencing net outflows of people, capital and resources, most of which rebound to the advantage of the center where economic growth will tend to be rapid, sustained and cumulative. As a result income differences between center and periphery tend to widen. But the periphery frequently includes what during the preindustrial era were important settlements and producing regions and may account for a major portion of the national population. It is therefore likely to hold considerable political power which may be used to persuade the national government to adopt an aggressive policy for extending the scope of economic development beyond the narrow confines of the initial growth regions.⁸

The growing recognition of this widening gap between the small number of urban cores and the vast rural peripheries has prompted planners, geographers and other concerned scholars to look for a methodology by which less developed countries could come up with the most viable system of regional classification for the institution of socio-economic and political development. It is evident that overall development of a nation is realized only when the productive capacities of all regions are mobilized and structurally and organizationally linked to the main-stream of the national economy.⁹ In order to do so, developing countries would have to adopt a regional development strategy and allocate their resources according to such a policy. Morill sees three basic alternatives for less developed countries with regard to the allocation of their resources in geographical space: (1) disperse investments evenly over the national territory; (2) concentrate investment in one best place with the inevitable result of creating a primate city and a

⁸Ibid., p. 3.

⁹John Friedman, Urbanization, Planning and National Development (Beverly Hills: Sage Publications, Inc., 1973), p. 43.

colonial-type center-periphery relationship, as is evident in many of the less developed countries today; (3) distribute investment to a set of growth points articulated in a hierarchical structure thereby creating an interconnected system of local, regional and national development programming regions.¹⁰

In agreement with Morill's third alternative, this paper assumes that the creation and institution of a regional development policy is a viable and indispensable strategy to promote national well being. An integrated complex of economic regions should display both internal, interregional and/or international economic links based on a hierarchical structure of growth poles. A growth pole is here defined as "an urban center of socio-economic activity which can achieve self-sustaining growth to the point that growth is diffused outward into the pole region and eventually beyond into the less developed region of the nation."¹¹ Such a development policy should aim at a number of important national objectives among which, I feel, the following are of crucial significance:

- a) Creating a conducive social, economic and political institutional framework in order to facilitate the spatial distribution of people and socio-economic activities in such a manner as to make it possible for sharing the advantages of national development equitably.
- b) Facilitating and stimulating national economic growth by utilizing or fully exploiting the natural resources of every part of the country so that economic and social activities could be multiplied through the proper use of labor and

¹⁰Richard L. Morill, The Spatial Organization of Society (Belmont, California: University of California Press, 1970), p. 201.

¹¹Niles M. Hansen, Intermediate-Size Cities as Growth Centers (New York: Praeger Publishers, 1971), p. 68.

natural resources.

- c) Linking the peripheral regions within a nation to a hierarchy of growth poles so that excessive differences in income and standard of living are minimized and national equilibrium enhanced.
- d) Permitting better and more rational allocation of investment between regions and within regions and between the different sectors of the national economy.
- e) Supporting a well-integrated and democratic socio-economic and political entity based on regional and cultural equality.

Since human activities are spatially organized, the spatial structure changes as the society undergoes development. Development itself is an innovative process leading to the structural transformation of social systems. A general theory of polarized development provides a promising beginning for the understanding and control of the spatial organization of any social system. It can serve the important purpose of harmonizing the core which is the center of innovative change, and the periphery which constitutes all other areas outside the core.¹²

The major thrust of this paper is to examine the process and functioning of the growth pole theory of economic development with the objective of using it as a basis for a conceptual growth model for less developed countries. Since the lack of spatial harmony between the core and the periphery is one of the vivid realities of the spatial organization of developing societies, the examination of the growth pole concept both in its theoretical construct and practical implications is viewed here as a first positive step towards

¹² John Friedman, Urbanization, Planning and National Development, op. cit., p. 43.

better spatial integration.

Justification of Study

The basic reason for conducting this study lies in the desire to examine the relevance and usefulness of the growth pole theory as an instrument of public policy in the socio-economic and political development of less developed countries. The spatial dimension of the concept is of particular interest to geography since the field is interested in the analysis of human organization over the earth's surface. As Haggett correctly put it, "the field of geography is concerned with the earth as the home of man, an environment that influences how we live and organize ourselves and how we can modify and build it better."¹³ The locational aspect of socio-economic development is basically concerned with the organization of activities in territorial space and does, therefore, involve issues of efficiency, optimization and cohesion as part of the broader questions of national development.¹⁴

Geographical analysis of human spatial organization looks into both the static and dynamic aspects of change through space and time. In any society, growth and development occur as a result of the filtering of innovation downwards through a hierarchy of urban centers, with the spread and use of the innovation among consumers residing with the urban fields of adopting centers.¹⁵ Thus the building of a conceptual model emphasizing the spatial

¹³Peter Haggett, Geography: A Modern Synthesis (New York: Harper and Row Publishers, Inc., 1972), pp. 276-277.

¹⁴John Friedman, op. cit., p. 134.

¹⁵Brian J. L. Berry, "Hierarchical Diffusion: The Basis of Developmental Filtering and Spread in a System of Growth Centers," in Man, Space and Environment, eds. P. W. English and R. C. Mayfield (New York: Oxford University Press, 1972), p. 359.

aspect of the distribution and diffusion of man and his activities constitutes an important contribution to our awareness of the acceleration of socio-economic growth and development over a national landscape.

In recent years, the growth pole concept of regional development has been viewed as an important construct upon which development policies may be based for more effective integration of agriculture, industry and social services. Urban and rural aspects of change can also be explicitly integrated. The concept has a basic appeal for the less developed nations of the world with its advocacy of the need for the creation of a number of strategically significant growth poles from which socio-economic and political development and institutional changes could be implemented for the benefit of all the people of a nation. In essence, its objective is to institute a regional development program that will facilitate the creation, planning, implementation and administration of the location of human economic activities giving consideration to the characteristics of regions, the needs and aspirations of the people, the nature and levels of economic development and the techniques required for the transformation.¹⁶ Since models accounting for unequal spatial distribution of economic development within a given area are of particular interest to the economic geographer,¹⁷ the examination of the growth pole concept as a generalized model for regional development is an appropriate field of geographic enquiry.

In order to place this study within a general geographic framework and bring the reader in contact with contemporary trends in the field of

¹⁶Ricardo Petrella, "Some Notes on Growth Poles," Growth Poles and Regional Policies: A Seminar (The Hague: Mouton & Co., 1972), pp. 194-195.

¹⁷D. E. Keeble, "Models in Economic Development," Models in Geography (London: Methuen and Co., 1967), p. 281.

economic geography, it seems appropriate to give a brief background on geographic literature in economic development.

Geographers have been interested in the understanding of the pattern of human settlement and activities from both the locational and interactional points of view for a long time. In the field of economic development, contributions by geographers include studies of the spatial distribution of productive forces or activities in order to establish and analyze the general patterns of the distributions and arrive at valid explanations of them.¹⁸ As Murphy succinctly puts it, "the field of economic geography suggests both utility and practicality."¹⁹

In the recent past, there has been a great concern in the field to tie geographical research to socio-economic problems. In 1953, the association of American geographers held a symposium designed to promote interest among geographers in development issues and problems. After examining the possible and actual roles of geographers in action programs of economic development, a general consensus was reached on the chief contributions of the geographer to development programs. Frank Keller, one of the participants of the symposium summarized the chief contributions of the geographer as lying "in his ability to evaluate the interrelationships of the various projects in overall balanced development."²⁰ Another participant in the symposium, Norton Ginsburg, noted that "resource evaluation" and "urbanization" were the two

¹⁸Peter Haggett, Locational Analysis in Human Geography (New York: St. Martin's Press, 1966), p. 121.

¹⁹Raymond E. Murphy, "The Fields of Economic Geography," American Geography: Inventory and Perspectives (Syracuse Univ. Press, 1954), p. 244.

²⁰Norton Ginsburg, Essays on Geography and Economic Development (Chicago: University of Chicago Press, 1960), p. xi.

topics that were directly relevant to development and which geographers are properly qualified to study.²¹ Ginsburg also referred to the need for the improvement of geographical techniques to understand the role of cities and resource appraisal in less developed countries' economic development. To substantiate his concern actively, he published an article emphasizing the role of natural resources in the development process.²²

In 1958, a special session of the Association of American Geographers convened and discussed on the topic "The Geographic Aspects of Economic Development." At the conclusion of the session, the participants made several suggestions about the role of geographic research in the study of developmental problems. One of the basic suggestions pointed out the need for "studies of areal differentiation and interactions in the non-western world as particularly important since it would cast light upon and constructively test and modify current ideas in location theory which then may become even more universally applicable and relevant."²³ Besides research on resource evaluation, attitudes towards resources and the ecological aspects of areal organization was advocated on the ground that such an understanding would make resource management, land use and regional resource development integral parts of geographic enquiry.

The coming of the quantitative revolution and the rather extensive

²¹Ibid.

²²Ginsburg's article "Natural Resources and Economic Development," appeared in the annals of the Association of American Geographers, Vol. 47 (September, 1957), pp. 197-212 and was considered as an important contribution to the literature relating geography to economic development at the time.

²³Norton Ginsburg, Essays on Geography and Economic Development, op. cit., p. xix.

use of computers in recent years have enabled geographers to contribute significantly in the analysis of complex interrelationships between different variables over the earth's surface. The works of Cristaller and Losch on central place theory, Reilly's gravitational model, Zipf's interaction models, and many other geographical works have contributed greatly to the refined understanding of the dynamic nature of human activities and spatial relationships.²⁴

The spatial and economic dimensions of the growth pole concept have much to contribute in our search for a rational pattern of spatial distribution of economic activities and methods of efficient mobilization and utilization of natural resources. Thus the elaboration of a theory of territorial location of social production and the creation of regional models of rational integrated development of productive forces is an important geographic contribution towards the understanding and eventual solution of one of the fundamental problems of less developed countries. This study contributes to an increased awareness of the need for a regional approach to socio-economic development based on a system of territorial combinations of natural resources and socio-economic factors of production giving consideration to maximum resource utilization, labor productivity, mass participation, social welfare and transformation in less developed countries. It will demonstrate the usefulness and relevance of the growth pole concept from both theoretical and practical points of view. As Milton E. Harvey pointed out ". . . the formulation of a simple but efficient methodology for the development of growth poles and their related peripheries should be one of the contributions of

²⁴Peter Haggett, Locational Analysis in Human Geography, op. cit., p. 121.

geographers to the transformation of traditional societies."²⁵

As a geography student, I believe that abstract concepts such as the growth pole theory should be given practical application in order to find solutions to the problems of poverty, hunger, illiteracy, injustice, violence, warfare and other socio-economic and political problems that are plaguing mankind today. As Ullman correctly put it "recognizing the important roles of concentration and differentiation or interaction and circulation, not only provides us with the beginnings of the theoretical geographical problems of underdevelopment but also contributes new insights to the whole problem of underdeveloped areas."²⁶

Method of Approach

Since the basic purpose of the thesis is to examine the relevance and usefulness of the growth pole concept of socio-economic development and suggest a conceptual growth pole model for developing countries, the method of enquiry used in the research could be appropriately referred to as descriptive. Such a descriptive, analytic approach has been necessitated not only by the conceptual nature of the problem but also by its relative newness and thus the lack of sufficiently detailed empirical evidence and reliable statistical information for quantitative analysis. The growth pole concept has been used as a basis of policy making in a few countries. The diversity of the socio-economic and political entities that have used the strategy makes it difficult, if not impossible, to make a precise analysis of the strengths and

²⁵Milton E. Harvey, "The Identification of Development Regions in Developing Countries," in Economic Geography (1972), Vol. 48, No. 3, p. 230.

²⁶Edward L. Ullman, "Geographic Theory and Underdeveloped Areas," in Essays on Geography and Economic Development, ed. Norton Ginsburg (Chicago: University of Chicago Press, 1960), p. 31.

weaknesses of the concept with valid empirical implications without making grave mistakes in statistical inference. However, a limited amount of numerical information and statistical methods have been utilized to lend support to the observations and facts identified in some of the chapters.

The statistical information used and the conclusions reached through analysis will have to be evaluated by the reader with the following constraints in mind. In the first place, the need for refinement of the statistical information should be acknowledged. The data used in the analysis, though taken from reliable sources should not be accepted without caution since many of the countries of the third world have only rough estimates of some or most of the variables used here. In the second place, the number and variety of socio-economic variables considered in the analysis is too small for conclusive and reliable assessment. The complexity of the problem of socio-economic development requires the inclusion of a great number of variables beyond the scope of this paper. The reader should see the results as merely indicative of a general pattern of relationships.

The thesis is divided into four major chapters. Following the introductory chapter, the second chapter provides a socio-economic profile of the less developed countries of the world presenting relevant statistical information on various socio-economic variables and examining the relationship of some of these variables in a rather unrefined but proper manner. This was deemed necessary in order to provide background information about the socio-economic realities and the problems of the developing countries and thus facilitate the advocacy of the concept within such a framework. In this chapter attempts have been made to present generalizations of empirical validity in both qualitative and quantitative terms.

The third chapter deals with the theoretical and practical framework

of the concept. It involves a rather extensive treatment of the evolution of the concept and its essential components, strengths and weaknesses as expounded by differing authorities in the field. Both the functional and geographical aspects of the concept are critically examined. In order to illustrate the practical aspect of the concept attempts have been made to review some practical examples of the applications of the concept in one developed country and three less developed countries.

The fourth chapter deals with the conceptual growth pole model proposed for less developed countries. In addition to discussing the major components of the proposed model, it provides an insight into some of the major factors that are critical in the application of the model.

The fifth chapter explains the operation of the model by using Ethiopia as an example. Besides offering a brief socio-economic profile of the country, it proposes a hypothesized regionalization of the country and a hierarchical system of urban places. The sixth chapter summarizes the paper and it is my sincere desire and hope that the conceptual model suggested in this paper would be useful to all who are interested in the socio-economic and political development and welfare of less developed countries. I believe that the conceptual framework suggested here will be a basis for a more complete and reliable empirical study.

CHAPTER II

A PROFILE OF LESS DEVELOPED COUNTRIES

The successful operation of any model of economic development depends upon a variety of socio-economic, political, cultural and physical factors. The growth pole conceptual model suggested in this paper is a highly generalized one and will have to be seen as an attempt to provide an approximation from which developing countries could institute structural changes in their geographical and socio-economic space. To understand the general characteristics of this milieu, it seems appropriate to provide an outline of the major socio-economic, political and spatial characteristics of less developed countries so that the model would be seen within such a frame of reference.

In economic and technological organization of societies such terms as "developing," "emerging," "less developed" and "underdeveloped" have been loosely used to differentiate those countries of the world that find themselves at a lower level of economic and technological development from the advanced ones. These terms are rather misleading as far as making a false global dichotomy, since no country is permanently developed or underdeveloped. All countries are developing but find themselves at varying stages and varying paces. The desire for continued development is a global phenomenon that is enmeshed in the social, economic and political fabrics of all societies in varying degrees and ways. Societies and nations generally have permanent desires that are basically similar in purpose though different in scope. Thus the dichotomous terms used to differentiate the developed from the less developed are here used within the context of modern economic and technological organizations of society.

The terms "development" and "growth" are extensively used throughout the paper. Thus it seems appropriate to define them briefly. Economic growth is "a state of increase in the national product, without reference to income distribution. Per capita income growth occurs when the percentage increase in national product is greater than the percentage increase in population." On the other hand, economic development is "economic growth combined with the nurture of those objects (norms, institutions and values) necessary to make growth continuous."²⁷ Development is basically a normative term and one has to look for a universally acceptable aim. In a very broad sense, the basic objective of development is the creation of the necessary conditions for the realization of the potential of the human personality. It should not be constricted to the narrow and shortsighted objective of providing enough food and employment. It should aim at reducing the social, economic and political inequalities in society.

The identifying characteristics of the less developed countries of the world are varied and many. Besides forming over two-thirds of the population of the world, they have also become distinguished in economic terms as a "universe of radical scarcity" or "commonwealth of poverty."²⁸ Brian J. L. Berry has given a brief descriptive summary of the profile of less developed countries within an empirical frame of reference:

An underdeveloped country apparently is not a member of some discrete group with very special characteristics. It is simply a nation which tends

²⁷John P. Powelson, Institutions of Economic Growth: A Theory of Conflict Management in Developing Countries (New Jersey: Princeton University Press, 1972), p. 7.

²⁸Keith Buchanan, "Profiles of the Third World," in Developing the Underdeveloped Countries, ed. Alan B. Mountjoy (London: The Macmillan Press, Ltd., 1971), p. 17.

to lie low on various scales relative to other nations. For this reason, we should probably think of Lesser Developed rather than underdeveloped countries. More specifically, lesser development is represented by low rank on a technological scale and high rank on the demographic scale Lesser developed countries by virtue of their low technological rank, have inadequate transport networks. They produce and consume little energy and are poorly provided with such facilities as physicians, telephones and newspapers. Both internal and external communications are limited, and national products are low. Such nations trade little . . . only small percentage of their populations live in cities. Their high demographic ratings indicate high birth and death rates, rapid rates of population increase, high population densities both per unit area and per unit of cultivated land and large percentages of total area cultivated.²⁹

The less developed countries to whom this growth pole model is suggested form an array of small, medium and large entities with differing physical, social, economic and political characteristics and levels of organization. Thus it is naive to assume that simple generalizations would describe the socio-economic and political characteristics of the less developed countries. The general treatment that is provided on certain key characteristics in the following pages should thus be considered as a mere profile whose purpose is to provide a basis for differentiation from the developed countries.

Economic Characteristics

Economically, there are various ways by which the geographical distribution of wealth and poverty among nations is measured. One of these is the gross national product which is the total value of goods and services produced

²⁹ Brian J. L. Berry, "An Inductive Approach to the Regionalization of Economic Development," in Essays on Geography and Development, ed. Norton Ginsburg, op. cit., p. 106.

in a given country in a year's time.³⁰ The world pattern of the gross national product shows that those parts of the world which lie below the world mean are the less developed countries of Africa, Asia and South America. Related to gross national product is the gross national product per capita - the amount of new wealth available to individuals in each country if all the wealth produced in one year were distributed evenly among them. As shown in Table 1, the highest was found in the developed regions and the lowest in the

Table 1

World Mean Per-Capita Gross National Product - By Regions*

Rank order	Region	Per Capita Gross National Product in U.S. \$
1.	North America	4,046
2.	Western Europe	2,771
3.	Northern Europe	2,611
4.	Soviet Union	1,790
5.	Eastern Europe	1,568
6.	Oceania	1,560
7.	Southern Europe	940
8.	Southwest Asia	939
9.	Caribbean	751
10.	Temperate South America	740
11.	East Asia	631
12.	Northern Africa	480
13.	Middle America	476
14.	Tropical South America	445
15.	Southern Africa	285
16.	Middle Africa	241
17.	Southeast Asia	230
18.	Eastern Africa	197
19.	Western Africa	165
20.	Middle South Asia	123

*The arithmetic mean was computed from data on 159 countries.

Source: 1973 World Population Data Sheet - Population Reference Bureau, Inc.
Population information for 163 countries.

³⁰ Norton Ginsburg, *Atlas of Economic Development* (Chicago: University of Chicago Press, 1961), p. 16.

less developed ones. There was also a wide range between the developed country's per capita gross national product and those of the less developed ones.³¹

Extending the simple analysis further, an attempt was made to examine the relationship between per capita gross production and some selected socio-economic variables in a rather unrefined but systematic manner. The data on the selected variables was gathered for one hundred countries from both the developed and the developing countries of the world. In broad terms, the analysis was aimed at investigating the relationship between per capita gross production as representative of overall national socio-economic development and the selected variables. The basic assumption made in the analysis was that there is a strong relationship between national socio-economic development and well-being as measured by per capita gross production and the level of urbanization and degree of primacy. The underlying motive for the analysis was to suggest, on the basis of the findings, that a regional development strategy based on the concept of a hierarchical pattern of urban centers distributed over the geographic landscape of a nation is an essential and crucial phenomenon for a sustained national socio-economic development.

The socio-economic variables considered in the analysis included the physical size of countries or area; total population; population of the largest city; percentage of population living in cities of 100,000 and over; per capita gross production; electric energy production; annual rates of population increase. The computations included the mean, standard deviation, variance, simple and multiple correlations, scattergram, regression and

³¹Ibid., pp. 16-18.

multiple regression. The simple correlation and multiple regression techniques were used in the examination of the relationship between per capita gross national product as a dependent variable and the selected variables as independent ones. The focus was made on population, urbanization and energy variables. The choice of the urbanization and primacy variables is of particular interest because urbanization is one of the key components of the growth pole conceptual model suggested in this paper. The results of the simple correlation and multiple regression analysis are shown in Tables 2 and 3 respectively.

Table 2

Simple Correlation between Per Capita Gross National
Production and Selected Independent Variables

Independent Variables	Simple Correlation Coefficients
Percentage of population in cities of 100,000 and over	.71297
Electric energy production	.53881
Population of largest city	.32850
Annual rate of population increase	-.19967
Total population	.01929

An analysis of the simple correlation coefficients shows that all but one of the independent variables are positively correlated to per capita gross national production. The strongest correlation coefficient was computed for the urbanization variable. Since urbanization is an important indicator of the level of industrialization and general socio-economic welfare, it implies that the higher the level of urbanization, the higher the per capita gross national product will be. This is in line with the current reality of the

world. The countries with the highest per capita national gross production are those which have high indices of urbanization and industrialization. Even in less developed countries those with a higher level of urbanization seem to have a higher per capita gross national product than those with low indices of urbanization and industrialization.³² The primacy variable represented by population of largest city had a weak but positive relationship with per capita gross national production which suggests that the dominance of one large city over the national territory does not have a significant positive influence on aggregate socio-economic output increment.

Table 3
Step-wise Multiple Regression Summary Table

Steps	Independent Variables	Beta Value
1.	Percentage of population living in cities of 100,000 and over	0.65293
2.	Electric energy production	0.40874
3.	Population of largest city	-0.23549
4.	Annual rate of population increase	-0.07861
5.	Total population	0.00031

Although the simple correlation coefficients were positive in all but one of the five independent variables considered, the step-wise analysis of these same variables using the multiple regression technique provides us with a better explanation by showing the degree of explanation obtained by each of the independent variables.

³²Norton Ginsburg, Atlas of Economic Development, op. cit., p. 34.

An analysis of the results shows that once all the variables are controlled for, the highest explanation for the variation in per capita gross national product was provided by the urbanization variable. This again suggests that urbanization is essential and significant in overall national economic development as represented by per capita gross national product. The next highest explanation was provided by the electric energy production variable. Since industrialization is strongly dependent upon energy production and consumption, the relationship is expected.

The variable representing primacy, however, had a negative correlation with the dependent variable in the multiple regression analysis. This implies that the higher the degree of primacy in a nation, the lower the per capita gross national production will be. Although such simple conclusions cannot be derived from an elementary and rather unrefined examination, its general implication seems to provide some insight into the influence of primacy on national socio-economic development. Since many of the less developed countries of the world are afflicted by the problem of capital city gigantism, which is often held responsible as an important factor for the creation and perpetuation of a dualistic pattern of development by absorbing almost all of the investment available, a regional approach is a rational alternative as a national development policy.

Another common and useful measure of the level of economic development of nations is the measure of agricultural occupation ratio. It provides an insight into the economic organization of peoples and nations. According to the study of Ginsburg et al., the world pattern along this line shows a clear distinction between the developed commercial-industrial countries which have small percentages of agricultural population and the less developed

countries where agriculture is the major occupation to more people than any other sector of the national economy.³³ Low level of agricultural rationalization (the organization of agriculture along scientific principles of management and procedures in order to obtain greater efficiency of operation) is another distinguishing trademark of most of the less developed countries even though agriculture is the basis of their economies. In areas where the modern agricultural sector is well developed, such as Argentina, it is largely export oriented. Even in areas where the modern agricultural sector is not yet fully developed, the economies of the less developed countries heavily depend upon the export sector. The disproportionate nature of their dependence is expressed by the monocultural characteristic or orientation of the agricultural export sector. On the import side of the economy, most of the less developed countries show the distinctive and rather unavoidable characteristic of spending their foreign exchange earnings on manufactured commodities and other capital products from the developed countries. Because of historical and contemporary geopolitical trading patterns and relationships, many of the less developed countries of the third world have become appendages of the former colonial powers or the developed countries of the West and the East, depending upon their socio-economic and political orientations.

Another distinct economic characteristic of the less developed countries is the gross inflation of the tertiary sector in contrast to the secondary or industrial sector. According to Buchanan, such a situation has created an employment structure in which those employed in the tertiary sector outnumber those employed in the secondary sector by 2:1 in many parts of the

³³Norton Ginsburg, Atlas of Economic Development, *ibid.*, p. 32.

developing world and the ratio is believed to exceed the 2.5:1 mark in certain parts of Central America, Africa and Southeast Asia.³⁴ Such a distorted employment structure is held accountable by many as one of the main forces behind the rapid growth rates of cities without a corresponding change in the structure of the vast rural lands. The character or process of this growth is well explained by Buchanan:

Great city growth rates have been considerably higher than the growth rates of the population as a whole, and this has been due, not to any great increase in the productive sector of the cities' economies but rather to an accentuation of their "parasitic" function. The city is a center of consumption rather than production and the misery of the stagnating countryside siphons off into the cities to create a lumpenproletariat. Lack of structural change in agriculture is thus intimately related to the mushroom growth of parasitic megalopolises in which the gulf between excess of luxury and excess of misery shatters the human dimension.³⁵

The problem of socio-economic dualism in less developed countries has been rather universal and many studies have been conducted to understand its nature and scope. H. W. Singer points out that one of the most striking characteristics of less developed countries in their spatial-economic organization is the superior status of the few cities that are centers of socio-economic and political organization and the inferior status of the vast rural geographic and economic space. He contends that the coexistence between the small islands of development and the vast rural periphery is not merely transitional. It is not what some economists attribute to as a necessary gradualism that creates a condition for the displacement or assimilation of the

³⁴Keith Buchanan, "Profiles of the Third World," op. cit., p. 30.

³⁵Ibid.

rural periphery to the urban centers. He also believes that the degree of economic, social and political superiority of the few urban places does not show signs of diminishing but rather increases constantly with the increase in the agglomerative powers of the cities. Besides, the interrelationship or the absence of interrelationship between these centers and the periphery is such that the cities do not do much to pull up the rural periphery. They could, in fact, harm it by a backwash effect such as depriving it of the most productive labor force.³⁶

Although such a dualistic socio-economic and spatial order could be explained as a natural, essential and unavoidable phase in the transition from a traditional to a modern socio-economic structural organization, much of the dualism could be attributed to government development policy with regard to the spatial and sectoral development of economic growth.

The growth pole concept of regional development could minimize such dualism by focusing its attention on the development of the mechanism by which regional resources could be properly appraised and utilized without having to unduly depend upon decisions made by the central government authorities. By altering prevailing core-periphery relationships, the problem of benign neglect of the peripheries of outlying regions could be reduced.

Demographic Characteristics

The demographic profile of the less developed countries is another dimension that makes them rather distinct from the developed countries. According to a United Nations' mid-1973 population estimate, the three

³⁶H. W. Singer, "Dualism Revisited: A New Approach to the Problems of the Dual Society in Developing Countries," in The Journal of Development Studies (Frank Cass & Co., Ltd., 1971), Vol. 7, No. 1, p. 60.

continents of Africa, Asia and Latin America accounted for 2,886 million people out of a total world population of 3,860 million. A look at the present demographic situation and the general trends reveals the impending problem for less developed countries. Table 4 yields some interesting insights along this line.

Although the population of the developed regions increases by less than 1% annually, the less developed countries register an average growth rate of over 2%. Since this growth is not matched by a corresponding economic expansion in most of the less developed countries, the socio-economic and political implications of such an explosion are grave and multi-dimensional. When poverty and high population increase go hand in hand and where poverty and potentially high population growth rates coincide, underdevelopment perpetuates itself over a longer time span. Whatever gains are made in the development process are swallowed by increased population which in most less developed countries is more of a liability than an asset.

Spatial Organization and Interaction

Another important factor that differentiates most of the less developed countries from the developed ones is the spatial organization and interaction of the people and their activities. The spatial organization of the population of most of the countries of the third world is characterized by a relatively low level of urbanization. Table 5 shows that the areas of the world where the level of urbanization is lowest coincide with the less developed countries of Africa, Asia and Latin America. Although a high level of urbanization may not necessarily mean considerable wealth per capita, the general world pattern suggests that countries with a large urban population

Table 4

Demographic Profile of the World by Continents and Regions

Continents and Regions	Mid-1973 pop. estimate in Millions	Annual rate of pop. in- crease %	Projected 1985 pop. in millions	No. of years required for pop. to double
World	3,860	2.0	4,933	35
Africa	374	2.5	530	28
Northern Africa	95	2.7	140	26
Western Africa	110	2.5	155	28
Eastern Africa	106	2.5	149	28
Middle Africa	38	2.1	52	33
Southern Africa	25	2.4	34	29
Asia	2,874	2.3	2,204	30
Southwestern Asia	84	2.8	121	25
Middle South Asia	828	2.6	1,137	27
Southeast Asia	313	2.8	434	25
East Asia	978	1.7	1,182	41
Latin America	308	2.8	435	25
Middle America	75	3.2	112	22
Caribbean	27	2.2	36	32
Tropical South America	164	3.0	236	23
Temperate South America	41	1.7	51	41
North America	233	0.8	263	87
Europe	472	0.7	515	99
Northern Europe	82	0.4	90	175
Western Europe	151	0.4	165	175
Eastern Europe	107	0.7	116	99
Southern Europe	132	0.9	146	77
Soviet Union	250	1.0	287	70
Oceania	21	2.0	27	35

Source: 1973 World Population Data Sheet - Population Reference Bureau, Inc.
Washington, D.C., 1973.

Table 5

Percentage of Population Residing in Cities
of 100,000 and Over by World Regions

Region	Percentages
World	23
Africa	11
North Africa	21
Western Africa	7
Eastern Africa	5
Middle Africa	6
Southern Africa	29
Asia	16
Southwestern Asia	22
Middle South Asia	11
Southeast Asia	12
East Asia	20
Latin America	31
Middle America	20
Caribbean	21
Tropical South America	32
Temperate South America	52
North America	57
Europe	38
Northern Europe	58
Western Europe	45
Eastern Europe	24
Southern Europe	30
U.S.S.R.	31
Oceania	49

Source: 1972 World Population Data Sheet - Population Reference Bureau, Inc.
Washington, D.C., 1972.

have greater social and economic interaction and complementarity than the predominantly rural nations. The implications of low degrees of urbanization are particularly important in countries where the town is remotely related to the rural population as is the case in many parts of the less developed world.

An important consideration of the urbanization phenomenon that has direct bearing on the concept of growth pole is that of primacy. Although primacy is a phenomenon found in both developed and less developed nations, the probability of its existence and the impact it exerts on overall national development is much more in less developed countries. The high localization of increasing political and economic functions in the primate city creates genuine problems of integration in most less developed nations. The impact is particularly devastating in poorly interconnected less developed countries where the dominance of one large primate city over the geographic and economic space may limit rather than encourage interaction among sectors and groups in the national socio-economy. Under such a situation, the chances of tying peripheral regions into a national system are poor, and such a failure will undoubtedly contribute to the eventual retardation of the rate of growth and development that a country is capable of making as a whole.³⁷ The creation of various regional growth poles, besides forming or strengthening regional population concentrations, will have the power to tie peripheral regions to the national core by acting as an innovation and linkage center.

From a spatial interaction point of view, the characteristic shared by many of the less developed countries is the severely limited accessibility and low levels of interconnection and integration both internally and

³⁷ John Friedman, Regional Development Policy: A Case Study of Venezuela (Cambridge: M.I.T. Press, 1966), p. 56.

internationally. Since the distance over which socio-economic activities are carried out is very much a function of the degree of spatial interaction and interdependency between cities and their peripheries, the absence of such a linkage has important impacts on the diffusion of development and change agents. Transportation and communication networks, as part of the developmental infrastructure of nations, are reasonably linked to their level of socio-economic development. As Morill pointed out, the proportion of economic and social activities and functions carried over the geographical space of spatially interdependent and integrated countries is higher and more evenly distributed than in the spatially restricted traditional society.³⁸

Political Characteristics

The political atmosphere is a crucial factor for the implementation of a growth pole strategy of regional development. As it will be pointed out in Chapter III of this paper, the failure of the growth pole policy of regional development in a few countries has been strongly linked to political forces. Thus, a brief characterization of the general political picture in the less developed countries shows the problems involved in implementing the growth pole strategy of development.

Politically, the nations of the third world represent a wide spectrum of political entities strongly affected by their historical associations with the colonial powers of the past and the power blocs of today. Buchanan has described the characteristics of the Afro-Asiatic bloc in an insightful manner by quoting Farajallah - a spokesman for the Afro-Asiatic bloc at the United Nations:

³⁸Richard L. Morill, The Spatial Organization of Society, op. cit., p. 26.

Elements of both an objective and subjective character . . . the fruits of a long and painful history and skillfully exploited by the great powers, intervene to fragment the emergent geopolitical unity constituted by the Afro-Asiatic world . . . they reduce it, at the best, to more or less limited and unstable regional structures . . . at the worst they threaten to pulverise it into a multitude of micro-nations which take the form of miniature states, fiercely jealous of their nominal independence, the latter fiercely acquired at a period when only the large units have the chance of survival and progress.³⁹

As an organized group, the countries of the third world do not represent a solid power structure because of national egoism and competition between themselves. The diversity of the political regimes, their economic orientations, their historical ties and degrees of clientele to the former colonial powers or present day power blocs are some of the important factors that militate against the solidarity of the third world countries in the world political arena.

The political role of the less developed countries in world affairs when examined vis-a-vis the countries of the developed world is characterized by one of subordination. Buchanan has correctly noted the nature of the relationship when he remarked that "the satellite quality of their economies and societies is the major distinguishing feature of the countries of the third world and it is in this satellite status that most of their geographical problems are rooted."⁴⁰

The broader implications of such a system of international relationship

³⁹Keith Buchanan, "Profiles of the Third World," op. cit., pp. 37-38.

⁴⁰Keith Buchanan, "The Third World and Beyond," in Developing the Underdeveloped Countries, ed. Alan B. Mountjoy (London: Macmillan Press, Ltd., 1971), p. 48.

will have to be examined closely since they are strong forces that impede the development of many of the countries of the third world. Since many of them operate within the capitalist framework of development, the aid they receive from the developed nations is conditioned to the creation of a free enterprise sector that stifles the emergence of a viable state sector that could become instrumental in meeting the needs and aspirations of the nation. The subordination of the third world countries is clearly demonstrated by the structure of trading relations between the developed countries and the less developed ones. Since most of the developing countries earn their foreign exchanges from the export of primary products to the developed countries, the stability of the market in terms of quantities and prices is a matter of great concern to these countries. However, the developed countries, as buyers, control the quantity, quality and price levels for many of the primary commodities produced by the third world countries thereby creating a crippling dependence in the developing countries on the goodwill of the developed countries.⁴¹

The relevance and usefulness of the growth pole concept of development should thus be evaluated within the context of these and other realities that most of the less developed countries of the world find themselves today. The implementation of a growth pole policy of regional development does not merely affect the territorial organization of economic activities within a nation. It aims at economic growth, social equity, political participation, spatial integration - in short, a structural transformation affecting all facets of national life. The generalized picture depicted by the profile of the less developed countries provides a background for a more detailed

⁴¹Ibid., p. 49.

examination of the viability of the concept as a development policy in these countries.

CHAPTER III

THE GROWTH POLE CONCEPT - ITS BACKGROUND AND THEORETICAL FRAMEWORK

In recent years, the growth pole concept has been the center of attention around which a body of ideas on economic development has accumulated. The question of spatial variation in development and prosperity within nations requires the formulation of a generalized model by which we can elaborate the functional and organizational structure of a hierarchical system of growth poles so that a more equitable distribution of development over the national landscape will be realized.

The growth pole concept was first introduced by Francois Perroux in 1950 when he made the following key observation about economic growth and development both in geographical and economic spatial terms. He argued that "growth does not appear everywhere all at once; it appears in points or development poles, with variable intensities; it spreads along diverse channels and with varying terminal effects for the whole of the economy."⁴² His concept of the growth pole was essentially based on the functional or economic aspect of development rather than a geographical one. Perroux identified three types of economic space: a) Economic space as defined by a plan - "the set of relations which exist between a firm, on one hand, the suppliers of input such as raw materials, labor, power, capital and on the other hand the buyers of the output, both intermediate and final." b) Economic space as a

⁴²Niles M. Hansen, "Development Pole Theory in a Regional Context," in Kyklos (1967), Vol. 20, p. 710.

"field of forces" - In this sense it is interpreted as consisting of "poles or foci from which centrifugal forces emanate and to which centripetal forces are attracted. Each center being a center of attraction and repulsion has its own proper field which is set in the fields of other centers." c) Economic space as a homogeneous aggregate is taken to indicate that "the firm has or has not a structure more or less homogeneous with those of the other firms which are its neighbours topographically and economically - it belongs to a space where, roughly speaking, one price reigns."⁴³

Thus Perroux' concept of the growth pole is based on the complex inter-industrial economic relations where the leading industry or industrial complex sets the impulses for growth. Less attention is given to the pole as a locational focus of growth concentration.⁴⁴ He conceived poles as firms or industries or groups of firms or industries from which growth and change is initiated. Such a view holds that the interconnection between the poles in terms of flows of inputs and outputs results in the transmission of the generated forces within these poles to a wider space. Thus he attached the condition of "dominance" of a firm or many firms as an important component of the growth pole notion. "Dominance is said to occur when the flow of goods and services from Industry J to Industry I is a greater proportion of J's output than is the flow from I to J of I's output. In this case, firm I is said to be dominant and firm J dependent."⁴⁵

⁴³Niles M. Hansen, Intermediate-Size Cities as Growth Centers (New York: Praeger Publishers, 1971), pp. 15-16.

⁴⁴Hamilton Tolosa and Thomas A. Reiner, "The Economic Programming of a System of Planned Poles," in Economic Geography (Massachusetts: Clark University Press, 1970), Vol. 46, No. 3, p. 449.

⁴⁵D. F. Darwent, "Growth Poles and Growth Centers in Regional Planning," in Environment and Planning, Vol. 1, No. 1 (1969), p. 6.

In addition to features of high interaction with *many firms* and a high degree of dominance, the size of the industry or firm is emphasized in early statements of the growth pole concept by economists. The basic assumption with regard to the element of size is that "the rate of growth or change is supposedly related to the size of the industry, since the bigger it is, the larger will be its field of dominance over other industries which sell to it or buy from it." Perroux also used the term "propulsive" to refer to a *firm or many firms* which have a combination of the characteristics of high interaction, dominance and large size. His explanation of the mechanics of polarization are based on this element of dominance.⁴⁶

Perroux' non-geographical orientation was noticed by other economists such as Boudeville who ventured into the regional character of space economy. Boudeville connected the pole as it exists in abstract economic space with its location in geographical space as a center. He saw the regional character of the economic space as being homogeneous, polarized and planning types of space. In the homogeneous space, the region is viewed as a continuous space wherein each of the constituent parts or zones has relevant characteristics as close as possible to those of the others. The polarized region was seen in light of the degree of interdependence between the diverse parts. He saw it closely related to the notion of a hierarchical pattern of urban centers ranked according to the functions they perform. Thus Boudeville defined polarized regions as "a heterogeneous space whose different parts complement and support one another and where they have more exchange of goods and services with a dominant intraregional urban center or pole, than with

⁴⁶Ibid.

neighboring regions." The planning region was defined by Boudeville as a "space whose various parts depend upon the same division in addition, it is an instrument placed in the hands of an authority, not necessarily localized in the region, to attain a given economic goal."⁴⁷

The growth pole theory was also treated by other writers on economic development among whom Hirshman and Friedman are prominent. Hirshman suggests that "an economy must and will develop within itself one or several regional centers of strength and that inter-regional inequality of growth is an inevitable concomitant of growth itself."⁴⁸ He believes that development needs to be geographically polarized in its early stages, concentrated in growing points where there is a high degree of entrepreneurship. According to Hirshman, the strategy of building up infrastructure in the underdeveloped regions of a nation to attract industrial investments is a wasteful strategy. To him, a viable strategy is to foster growth in the existing growth poles anticipating a trickling down effect to the hinterlands. From a sectoral point of view, he feels that concentration of development strategies to a few sectors rather than widely dispersed projects is wiser. The few key sectors could be determined by measuring backward and forward-linkage effects in terms of their input and output maxima.⁴⁹

Friedman has contributed significantly to regional development theory and the growth pole concept. In his center-periphery model, he has dealt with important aspects of development such as the spatial incidence of

⁴⁷Niles M. Hansen, in Kyklos, op. cit., p. 713.

⁴⁸Albert O. Hirshman, The Strategy of Economic Development (New Haven: Yale University Press, 1958), pp. 183-184.

⁴⁹Niles M. Hansen, Intermediate-Size Cities as Growth Centers, op. cit. p. 25.

regional economic development. He used the terms "Core" and "Periphery," attached to the urban centers and their hinterlands respectively. He argues that "development will tend to have its origin in a relatively small number of centers of change located at the points of highest potential interaction within a communication field; innovations will tend to spread downward and outward from these centers to areas where the potential interaction is lower."⁵⁰ Through his theory of polarized development, Friedman addressed himself to economic, social, political and cultural developments rather than the narrow economic viewpoint advocated by Perroux and his followers. In his discussions on the relationship between the core and periphery in terms of the incidence of economic growth and development in economic space, he points out that "regional economies are open and because of this economic growth is induced externally, initial impetus being the export of a primary product or resource to other areas or nations."⁵¹ Within the context of geographical space, Friedman saw economic growth as taking place in a matrix of urban regions which he referred to as the building blocks around which economic space is constructed. He envisions the emergence of a hierarchical system of cities and urban fields, which is held to be evidence of increasing spatial integration and therefore development. Thus he considers the institutional and organizational framework of society as the most decisive element in the process of economic development. He advocates state intervention in the institution of economic development and spatial equilibrium rather than leaving the

⁵⁰ John Friedman, "A General Theory of Polarized Development," in Growth Centers in Regional Economic Development, ed. Niles M. Hansen (New York: The Free Press, 1972), p. 93.

⁵¹ Darwent, "Growth Poles and Growth Centers in Regional Planning," op. cit., p. 16.

process to the unhindered interplay or operation of market forces.⁵² This is particularly important in the less developed countries where the government is usually the largest single contributor to investment.

A hierarchical, spatial system of polarized development essentially creates a core-periphery relationship at different levels. Friedman sees the relationship as a harmonious one in which the center plays a more significant role than the periphery.

The economic dimension of the growth pole concept is best illustrated by a brief treatment of the notions of the "spread" and "backwash" effects of polarization. This aspect of the growth pole concept refers to the effect that the agglomeration of economic activities will have on the areas under their influences. The regional concentration of economic activities creates a distinct spatial environment by bringing the center-periphery relationship from a national level to a regional level. As the selected growth poles grow as a result of both internal and external economies and economies of agglomeration, they establish a different set of relationships with their peripheries.⁵³

Spread or trickling down effects are those centrifugal forces that tend to disperse some of the benefits of socio-economic and political growth and development to the peripheral regions. Backwash or polarization effects refer to the process which works to the advantage of the growth pole and to the disadvantage of the periphery because of the economic strengths of the

⁵²Ibid., p. 18.

⁵³Albert O. Hirshman, The Strategy of Economic Development, op. cit., p. 187.

center and weakness of the periphery.⁵⁴ The concentration of various types of industrial and commercial activities in the growth pole creates job markets, increased demand for goods and services, greater opportunities and infrastructural expansion. The availability of these and other related services draws the more enterprising and energetic people from the periphery and such a flow of people from the periphery is counter-productive to them.

The theoretical framework of the growth pole is essentially based on the principle that takes industrialization as an aim and essential dynamic factor for the development of nations. Boudeville's discussion of the theoretical framework of the growth pole concept seems to be an appropriate evaluation and summary of the body of the concept. From a technical point of view, polarization is taken as a process of industrialization and diversification of activities starting from an industry or industrial complex and is thus based on an economic foundation in which the role of interindustrial linkages, mechanisms and acceleration are stressed. Polarization is also taken to mean the development of a geographically agglomerated economic and social complex that is strongly affected by communication forces. Finally, the process and policies of polarization differ according to the types of structures of the economy in which they operate.⁵⁵

A Critique of the Growth Pole Concept

The growth pole concept has been both praised and criticized for its contributions to the field of regional economic development. In order to

⁵⁴Herbert C. Weinand, "Some Spatial Aspects of Polarized Development in Nigeria," in Journal of Developing Areas (January 1973), Vol. 7, No. 2, p. 249.

⁵⁵Ricardo Petrella, "Some Notes on Growth Poles," op. cit., pp. 194-195.

understand the usefulness of the concept to developing countries, it seems appropriate to examine some of the observations made about the concept by various analysts.

In its early days, the concept was criticized for placing more emphasis on interindustrial linkages, ignoring the spatial incidence of growth and development. However, with the broadening of the concept to include geographic space, the criticism seems to be less valid.⁵⁶ Jansen saw the functional and geographical considerations of the growth pole concept as a "first step towards the formation of a theory in which attention is paid to the spatial effects of economic growth on one hand and of the effects of spatial structures, on the other hand."⁵⁷

Hansen has criticized the concept from a number of standpoints. Among his criticisms, he included the concept's emphasis upon big industrial undertakings; its relationship to external economies of agglomeration; its relationship to public policy goals and the need for semantic clarifications as the most outstanding ones.⁵⁸ His criticisms are levelled in view of the confusions with the notions of the key industry that has been misconstrued as some kind of a monument that will guarantee future regional industrialization and hence economic growth. With regard to the semantic confusion, he feels that "the same nominal concepts are employed in the context of abstract, non-geographic space, at other times in the context of certain more or less well

⁵⁶Howard L. Gauthier, "Geography, Transportation and Regional Development," in Economic Geography, Vol. 46, No. 4 (October 1970), p. 616.

⁵⁷A. C. M. Jansen, "The Value of the Growth Pole Theory for Economic Geography," in Tijdschrift Voor Econ. En Soc. Geografie-MRT (Amsterdam, April 1970), p. 67.

⁵⁸Niles M. Hansen, "Development Pole Theory in a Regional Context," in Kyklos, op. cit., p. 726.

defined geographic areas, and at yet other times in a fashion which indiscriminately mingles abstract and geographic space in the same context."⁵⁹

William Alonso pointed out that one of the basic problems with the theory is the "absence of an empirically determined scale of relevant sizes of regions and growth poles to serve as a guide to a policy and action of regional development."⁶⁰ This particular criticism was also supported by Darwent when he voiced the lack of agreement on the size and growth rates at a given state of development and in a given socio-cultural pattern.⁶¹

On a more practical plane, opposition to the growth pole concept has been voiced from several rather sound and revealing grounds. One of these criticisms is that concentration of development in a few major urban centers will only drain the rural regions resulting in the same center-periphery relationship that existed in the first place.⁶² However this accusation is not a strong indictment of the growth pole concept since economic development does not take place uniformly in any kind of national geographic and economic space at the same time and in the same manner. By its very nature, development takes place in polarized points from where it spreads outwards eventually.

Another opposing position is based on the fear that growth on one part of a region may inhibit or retard the growth of the rest of the region. In essence, it implies that the disequilibrium at the national level is brought

⁵⁹ Ibid., p. 724.

⁶⁰ William Alonso, "Urban and Regional Imbalances in Economic Development," in Economic Development and Cultural Change, Vol. 17, No. 1 (October 1968), p. 3.

⁶¹ D. F. Darwent, "Growth Poles and Growth Centers in Regional Planning, op. cit., p. 24.

⁶² Niles M. Hansen, French Regional Planning (Bloomington: Indiana University Press, 1968), p. 241.

to a regional level thereby creating a situation where the most dynamic zone or element within the region could negatively affect the development of other parts of the same region.⁶³ Such a situation will undoubtedly entail the draining of economic and social life in the lower hierarchy of growth centers in many ways such as migration of manpower and capital. Such a one-sided relationship should not be allowed to assume a dictating power in intraregional development. Linking the lower-order urban centers to the higher-order centers by a series of economic, social and political forces could enhance more democratic relationships. This will curtail the possibility of a complete eclipse by the superior elements in the urban hierarchy within a region. The development of regional growth poles is not isolated from the region but a complement to the rest of the regions' hierarchical structure. The purpose of a regional approach to development should not be blinded by a desire to register higher economic growth but should be aimed at executing its special services and functions effectively.

The Growth Pole Concept and Developing Countries - A Practical Application

Since the growth pole theory came into existence it has been adopted as a basis of regional planning in one form or another and affected economic policy in both the developed and less developed countries.⁶⁴ The concept has especially had great appeal to politicians, economists, geographers and planners of developing nations. In the following discussions, an attempt will be made to give a brief summary of the growth pole concept as it was applied

⁶³Ibid.

⁶⁴Ricardo Petrella, "Some Notes on Growth Poles," op. cit., p. 187.

in its country of origin, France, and three less developed countries in Latin America: Chile, Bolivia and Colombia. In the case of France, the review is essentially based on an article by Jacqueline Beaujeu-Garnier.⁶⁵ The part on the three Latin American countries is based on an excellent evaluation of the application of the growth pole concept in these countries by Michael Conroy.⁶⁶

In France, numerous concrete steps were taken to bring about a more satisfactory equilibrium between the different regions of the country. The imbalance between eastern and western France in favor of the earlier and the predominance of the Parisian agglomeration which includes one of every 5.5 French people, and one industrial worker of every four, had prompted French regional planners and policy makers to advocate the decentralization of French industry and achieve a more meaningful equilibrium on a national level. Thus, France was divided into twenty one economic regions in 1955 with the hope of decreasing the monolithic development of the Parisian agglomeration. Every economic region was to have its own program and model of development and propose its own individual conceptions for the future. The largest city in each of the regions was given the leadership role although it was controlled by Paris which not only provided the money but also the official instruction as a supreme arbiter between all the regions.

Although there was a considerable amount of movement of industrial

⁶⁵Jacqueline Beaujeu-Garnier, "Toward a New Equilibrium in France," in Annals of the Association of American Geographers, Vol. 64, No. 1 (March, 1974), pp. 113-125.

⁶⁶Michael E. Conroy, "Rejection of the Growth Center Strategy in Latin American Regional Development Planning," in Land Economics, Vol. XLIV, No. 4 (November 1973)

plants and enterprises from the Paris basin to the various economic regions, there was not a single economic region with a capital large and powerful enough to balance the leadership of Paris, economically or politically. Thus by the end of 1964, eight regional metropolises were selected to become leaders of their respective regions. All the cities selected were as far as possible from Paris and each of them was supposed to control a part of a hexagon shaped area equal to the area dominated by Paris itself as a regional capital. In the creation of these eight regional metropolises, such considerations as population, the qualitative and quantitative level of their tertiary services such as banking, administrative and university units and commercial business were taken.⁶⁷

Evaluating the consequences of the policy, Garnier points out that although it was given considerable official support in the form of subsidies favoring reorganization of the location of certain tertiary activities in the eight metropolises, it has not been pushed far enough. Instead, a new emphasis on medium-sized cities rather than regional metropolises was initiated with the aim of stimulating activity on a more localized but reduced scale. Garnier sees this approach rather pessimistically in view of its hazy definition of the medium-sized towns as those ranging from 50,000 to 300,000 inhabitants. She suggests that a balanced regional development for France could be brought about by the building of a new network of interconnections having many large regional centers; the decentralization of not only the productive plants but also the headquarters of the main firms and banks in order to create new foci of high level tertiary employment and to attract dependent offices; and political decentralization to break the monopolistic power of

⁶⁷ Jacqueline Beajeau-Garnier, "Toward a New Equilibrium in France," op. cit., pp. 118-123.

decision of Paris. She contends that although much has been done with respect to the first two problems, the power of decision and financial potentialities still remain in Paris.

The three Latin American nations which applied the concept provide us an insight into the problems that developing countries may encounter in the process. Since Chile, Bolivia and Colombia represent a rather varied spectrum of different levels of development within the less developed world, a closer look at their attempts to apply the growth pole concept and the problems they faced would seem to be appropriate for the understanding of the usefulness of the concept to other less developed nations.

In Chile, where the first comprehensive national plan for regional development in Latin America was produced, the growth pole strategy called for the creation of a three level hierarchy of poles. Accordingly appropriate measures were taken and the growth poles were instituted in the planning regions. In Bolivia, the strategy was warmly accepted and implemented under the rational assumption that urbanization is a necessary phenomenon to reduce poverty. Thus a hierarchy of growth poles and smaller centers was established to fulfill the basic assumption. In Colombia, the growth pole strategy was deemed essential to remedy "the absence of internalization and economies of scale" which they viewed as the principal culprits for the low levels of efficiency and competitiveness. Thus they instituted a six level hierarchy of growth poles upon which a functional hierarchy was superimposed.⁶⁸

In all three countries governments were changed during the time of the application of the growth pole concept and all of them moved away from

⁶⁸Michael E. Conroy, "Rejection of the Growth Center Strategy in Latin American Regional Development Planning," op. cit., pp. 371-373.

the strategy, rejecting it as inappropriate to the needs of their respective countries. Conroy analyzed the rejection of the growth pole strategy from four broad points of view - the ideological, theoretical, political and practical. Since all these factors are very pertinent to the problem of applying the growth pole strategy in less developed countries, a closer examination of the manifestations and implications of these factors illustrates the relevance of the strategy to developing countries.

Ideological Grounds. According to Conroy's analysis of the bases of opposition to the growth pole strategy in the three Latin American nations, the strongest one essentially stemmed from ideological grounds. He defined ideological objections as "those which do not disagree with or question the basic theoretical constructs, the implied internal mechanisms or their technical implications but rather which disagree with the value bases believed to be implicit in the theory and to the implications of growth center strategies for overall long-run national development."⁶⁹ The ideological criticisms levelled against the strategy in the three Latin American countries came from the socialist as well as the capitalist camps.

In Chile, the growth pole strategy fell into disfavor when the socialist government of Salvadore Allende saw it as a model of economic dependency which the previous government used to guide the spatial pattern of Chilean growth. The socialist government saw the strategy as undemocratic in that it is both concentrative and exclusionary because it implied the automatic exclusion of certain parts of the country and its population. It was thus strongly opposed and replaced by a deconcentrative and integrative policy in

⁶⁹ Ibid.

which the entire population could be brought within the development process.

The Chilean line of criticism was supported by a number of other writers on the growth pole concept in Latin America. They are quick to point out that internalized polarized growth is essentially based on the same exploitative reasoning that formed the present day pattern of international relations in which powerful countries use varied political, social and economic instruments to propagate their ideological beliefs and economic designs and policies in the less developed world. Thus they view the theory of development poles and its implication as a design for the development of currently existing poles and the advancement of the currently dominant ideology. More particularly, they see the growth pole concept as a capitalist design that is "being forced on less developed countries to convince them of the inevitability of concentration in corporate capitalist expansion thereby preparing a satisfactory climate for the implantation of the branches of multinational companies."⁷⁰ However, they also accede to the fact that the growth pole concept does certainly bring about increases in the rate of growth of the overall economy although at the expense of greater marginality, greater socio-economic differences and repression.

Theoretical Grounds. The theoretical criticisms offered are also varied and quite realistic. In the first place, the question of transferability of the concept from the highly developed countries of Europe where it originated to the less developed countries of the Third World is under scrutiny. In particular, the spatial aspect of the theory is suspect because it was conceptualized in a functionally integrated, densely populated area with

⁷⁰Ibid., p. 374.

clearly discernible hierarchical city-size distributions. On the other hand, most of the countries of the Third World are plagued by socio-economic dualism with weak levels of spatial and economic integration. In the second place, the question of weakness of entrepreneurial activity and leadership is mentioned. One of the reasons often cited as a major obstacle to the development of the countries of the Third World is the absence of skilled entrepreneurs who are capable of organizing and, most importantly, financing projects of the scale required for propulsive industries and the resultant decentralized, polarized development advocated in the growth pole strategy. In the third place, the concept is suspect by those who see polarization as a policy that will give further inducement to spatial concentration of plants which are individually larger than it is socially optimal. Thus they see such a development leading to a "divergence between socially optimal and privately optimal internalization of agglomeration economies."⁷¹

Political Grounds. Along the political front the concept is assailed by those who see it as a strategy with a built-in preferential treatment in that it involves the selection of primary foci and thus a preferential treatment could not possibly be accepted by the regions that are excluded. Encouraging the proliferation of a large number of regions and growth poles would undoubtedly decrease the usefulness of the strategy while limiting it to a small number of points and regions would aggravate the opposition from the areas that are excluded. The expectation of the selected growth poles for vast investment funds and opportunities from the central government could

⁷¹Ibid., p. 376.

also become an important political problem.⁷²

Practical Grounds. Opposition to the strategy from the practical point of view was also strong in the three Latin America countries. The practical considerations range from the process of identifying an appropriate center for future polarized growth to the assurance of whether the chosen center will respond in a way much more productively than any other place under such a radical change.

Taking into account all these considerations, many people have made several alternative approaches for regional development. One of the suggestions is that industrialization, urbanization and polarization must be taken as a combined strategy rather than separately. Another suggestion points out the need for the identification of a target structure prior to beginning a process of restructuring the spatial organization as a crucial and necessary prerequisite. This point of view advocates that the target must be determined in terms of a structured society, rather than the present one.⁷³

Since the growth pole concept was applied in unique political, economic and social circumstances, it may not be appropriate to make sweeping generalizations about the shortcomings in the process of application. However, a careful analysis of the criticisms would suggest that there is a need to view the strategy as a total action rather than one aimed at a certain segment of national-socio-economic life. Balanced regional growth and development must reflect both economic and demographic facts and political implications. It must seek a new structure and equilibrium for the whole country,

⁷²Ibid., p. 377.

⁷³Ibid., pp. 378-379.

an equilibrium based not only on economic benefits but also upon a better life for more people. Such a structure and program of development and change undoubtedly requires the coexistence of a strong nationalized basic sector and private initiatives.

CHAPTER IV

THE GROWTH POLE CONCEPTUAL MODEL: ITS COMPONENTS AND GENERAL FRAMEWORK

The use of models in a descriptive geographical analysis or enquiry is indispensable for a proper understanding of an abstract concept such as the growth pole theory. In this chapter, I have attempted to create a conceptual framework based on the growth pole theory with principal components that I felt would be instrumental in the emergence of a national socio-economic and political structure conducive to sustained development and transformation. My intention in proposing the application of such a model is merely to provide a generalized approximation of the conditions by which a regional policy of socio-economic development could be undertaken in less developed countries.

The complex nature of socio-economic development does not allow the formulation of any single and complete model by which the interrelationships of different phenomena could be easily explained. Thus the model proposed here should be construed with the following basic assumptions. As a geographical model, it is subject to the same constraints as the other observational sciences which must see situations as they occur rather than under controlled conditions of the experimental sciences. Under such circumstances, large numbers of factors or components must be presumed to be operating simultaneously. Another major assumption of the model is that complete solutions to such a complex socio-economic problem is rather difficult, if not impossible because of the problem of identifying all the pertinent factors that come into the picture. The diversity of the countries of the Third World or less

developed countries to whom the model is proposed also makes it impossible to assume that it provides all the solutions to the problems of socio-economic development related to geographical space. Thus the model suggested here is merely an attempt to abstract what seem to be important components of a growth pole model of socio-economic development for less developed countries.

The four components considered as very crucial in the proposed growth pole model include:

- A. The spatial structure and organization of the urban hierarchy
- B. The transportation system or network that links the geographical space
- C. The institutional structure and organization that propels the system
- D. The time that is required for the realization of the various goals in the process of national transition and socio-economic transformation.

The selection of these components, though subjective in nature, is not arbitrary. National socio-economic development and growth takes place in geographical space and the understanding of the structure and organization of this space is a necessary precondition in any attempt of reconstruction. Therefore, the examination of the urbanization component and its role in the operation of the growth pole policy of socio-economic development was deemed necessary, for its explanatory powers for the incidence and diffusion of growth and development are relevant. The transportation component is an essential element in any program of national development. Transportation affects the development of any region by changing the pattern of its internal and external accessibility. The institutional component is undoubtedly the most basic element in the execution of any policy of national socio-economic

development. Since all changes take place through some kind of a system, an approximation of the general institutional framework by which the growth pole development policy is carried out is indispensable. The time component has been included in the model as the less developed countries find themselves at different stages of socio-economic development. The objectives and goals will differ in their application of the growth pole concept according to the phase or stage each country is in.

The Urbanization Component

The urbanization element is a central theme in the growth pole theory. In fact, the very definition of the growth pole concept is based on the notion of creating a hierarchical structure of cities over the geographical space of a nation. Friedman saw cities as favorable and indispensable points for the initiation and diffusion of growth and development because they have the valuable attributes of urbanization and localization economies. In agreement with Friedman, this paper takes urbanization as signifying both the geographical concentration of population and non-agricultural activities in urban environments of varying sizes and forms and also the geographic diffusion of urban values, behavior, organizations and institutions.⁷⁴

In the case of developing countries, the need to establish a hierarchy of urban centers and foster strong interlinkages is urgent since the largest proportion of their population lives in the rural areas partially or completely isolated from the mainstream of national life. The need to bring rural population within the modern economic sector and at the same time create the atmosphere for the expansion of industrial and commercial activities

⁷⁴ John Friedman, Urbanization, Planning and National Development, op. cit., p. 65.

necessitates the formulation of both a theoretical and practical framework of urbanized spatial order over the national territory. Thus the role of cities in the development process is very crucial in developing countries. The following statement by Hoselitz is highly illustrative of this point of view.

They (the cities in underdeveloped countries) exhibit a spirit different from the countryside. They are the main force and the chief locus for the introduction of new ideas and new ways of doing things. One must look, therefore, to the cities as the crucial places in underdeveloped societies in which, the adaptation to new ways, new technologies, new consumption and production patterns and new social institutions are achieved.⁷⁵

Today, urbanization is a world-wide phenomenon and the trend is not likely to indicate a reversal. In less developed countries, the wave of urbanization is rather a recent development and is attributed to a number of historical and contemporary socio-economic and political factors. Besides the surplus rural population and inadequate rural employment opportunities, in many parts of the less developed world, there are different socio-economic and political forces that have been held responsible for the rapid wave of urbanization that characterizes most of these countries today. Morill's simple description illustrates the general explanation provided commonly for this situation.

Urban life seems in the present age to have overwhelming advantages and attractions. Economic diversity is greater in urban areas, economic opportunities are concentrated here perhaps to a more than efficient degree. Educational and cultural superiority follow this concentration of talent and wealth. The efficiencies of agglomeration and greater

⁷⁵B. F. Hoselitz, Sociological Aspects of Economic Growth (New York: 1960), p. 163.

scale reduce costs and raise living standards. Culturally mixing ideas and people enriches individual experience, reduces prejudice and encourages innovation and tolerance to progress. The anonymity of the individual is an attraction to many persons. In the city are excitement, opportunity and comfort.⁷⁶

Although urbanization is viewed by many as an unfortunate by-product of planned industrialization whose consequences governments should constrain, the fact that it is a set of powerful developmental forces in its own right has been established without doubt.⁷⁷ The spatial organization of cities within the framework of the growth pole concept advocates not only the creation of a hierarchical pattern of dynamic urban centers over the geographical space of a nation but also rejects the overconcentration of economic and social activities and services in a primate city. It adheres to the conviction that urbanization is a positive and strong factor in the transformation of less developed societies. In order to achieve the creation of a hierarchy of urban centers, over a national geographic space, there is a need for a policy of national regionalization.

National Regionalization and the Urban Hierarchy. One of the greatest problems that mitigates against planned development in less developed countries is inadequate reliable statistical information on practically all aspects of national socio-economic life. A viable system of classifying a nation into regions is strongly affected by this problem. As Engman points out, many of the statistical techniques and procedures used in regionalization

⁷⁶Richard L. Morill, The Spatial Organization of Society, op. cit., pp. 162-163.

⁷⁷John Friedman, Urbanization, Planning and National Development, op. cit., p. 154.

are "centered upon the objectives of creating larger groupings with either minimum within group differences or maximum between group interaction."⁷⁸

In less developed countries, regionalization of a country into neat contiguous areal units is by any reckoning an idealistic venture. It becomes more of a problem when the regionalization is supposed to embrace a hierarchy of local, regional and national centers with a constant and efficient system of interlinkages. Thus the question of operationality - practical functioning - looms very high in any measure of regionalization. Operationality would thus involve the proper understanding of the various social, economic, political and physical variables that have a controlling influence on the functional relevance of the regional units. L. B. M. Mennes, et al., suggest that the following four principles be considered in the regionalization of a country:

- a) Homogeneity with regard to socio-economic and cultural conditions should be considered as a significant variable in regionalization. Although there is a great deal of cultural diversity in less developed countries to follow the principle strictly, broad similarities could be identified and used as a basis of regionalization.
- b) The frontiers of the regions should coincide with the most important obstacles to transportation - both physical and social.
- c) The regional frontiers must be delineated in such a way that they coincide with administrative frontiers between provinces and districts so as to facilitate both the dissemination of information and the implementation of the regional plan. This is essentially based on the concept of operationality and has been given emphasis in the regionalization of the datum country -

⁷⁸E. V. T. Engman, "Spatial Convergence-Divergence: A Quantitative Approach to the Problem of Delineating the Region," The Journal of Tropical Geography, Vol. 37 (December, 1973), p. 16.

Ethiopia. However changes could be made in the administrative boundaries to fit desired planning regions. d) The last principle that should be considered according to Mennes is the element of size both in terms of physical and population attributes. He advocates that the physical as well as the population size of each region should compare favorably with the others in order to avoid too big a difference in socio-economic viability in the process of development. The number of regions within a nation is also reflected in this principle. It is suggested that it should be made as small as possible so as to keep the regions within a reasonable size and not lose sight of the reality behind the subdivision. On the other hand, care must be taken not to partition a country into too many small regions with few inhabitants since that would reduce the viability of the regions as self propelling socio-economic regional entities.⁷⁹

Rozin sees the regionalization problem from an economic point of view. He notes that the internal and interregional relations of economic regions of developing countries are not significant. He advocates the formation of economic regions in developing countries through planning and appropriate channeling of investment capital by the government. He defines an economic region in developing countries as "a community of territory and economic life as of a particular historical time period, displaying both internal and interregional or international economic links on a particular structure of productive forces and productive relations." He feels that "a rationally organized territory should involve the dialectical identity of nodal and functional regions. It should resemble an industrial plant in which each workshop

⁷⁹L. B. M. Mennes, Jan Timbergen and J. George Waardenburg, The Element of Space in Development Planning (Amsterdam: North Holland Publishing Co., 1969), p. 50.

specializes in the output of a particular type of product and functions at the same time as a unit in the administration of production and of the producers."⁸⁰

Hansen also had a functional approach to the bounding of a polarized region. His view is well expressed in the following statements.

The boundary of a polarized region is often defined as the line beyond which flows and connections are predominantly in some other direction toward some other pole. A polarized region can exist at any scale and smaller polarized regions will tend to nest within larger ones. The idea of a polarized region therefore is compatible with the central place structure of a hierarchy of cities of ascending size and function, with the growth centers normally being the larger city or cities in the region, at whatever scale is being considered.⁸¹

The regionalization of a country in various discrete spatial units is a very subjective and difficult task. One cannot assume too perfectionist a stand in defining regions since that will lead to a large number of regions - often too large a number making the model very complicated and difficult to operate. This is particularly characteristic of the less developed countries where the statistical information available is too fragmentary to warrant any claim to a discrete regionalization. Groeman has expressed the problem in concise and precise terms.

So long as we consider the region as something of space there is no more chance of defining a scientifically satisfactory concept of "region."
 . . . the region is something of people, reflecting a network of specific relations, to be defined precisely in space for practical reasons

⁸⁰M. S. Rozin, "The Problem of Economic Regionalization in Developing Countries," in Soviet Geography: Review and Translation, Vol. X, No. 8 (October 1969), p. 465.

⁸¹Niles M. Hansen, Intermediate-Size Cities as Growth Centers, op. cit., p. 69.

Society is a conglomerate of all sorts of social relationships, differentiated in space. No matter whether we take economic activities, religious life or the realm of education, all these have their deposit somewhere in space, in other words: they are regionalized.⁸²

Thus the regionalization of a country for operational regional planning purposes could only be made satisfactory when the relevant physical, social, economic and political factors operating within the region are taken into account. The use of administrative boundaries within a given country coupled with natural factors including resource endowments, labor supply and transport facilities and possibilities could be one way of regionalizing a country. Another method of regionalization could be on the basis of identifying the specialized function of a region within the national economy. As a United Nations' report notes, "the identification of the characteristics of economic regions, their internal socio-economic structures and development potentials and possibilities, can contribute greatly to the general knowledge of the prospects for development of a national economy as a whole. Planning based on such knowledge should be a prerequisite for directing a sequence of change towards desirable patterns of spatial evolution, so as to stimulate general socio-economic development and discover new sources of development as well as identify the barriers to it."⁸³

The Selection of Growth Poles. One of the salient problems in advocating a regional socio-economic strategy of development is that of selecting

⁸²Sjord Groeman, "Regionalization as an Operational Procedure," in Growth Poles and Regional Policies, eds. Kukliniski and Petrella, op. cit., pp. 102-103.

⁸³United Nations, Regional Planning: Report of the Sixth Interregional Seminar on Development Planning, Quito, Ecuador (New York: 1973), p. 5.

the growth poles for the various regional spatial units. Klassen notes that political, economic and social factors have a very important role to play in the selection of those centers that have the best development potentials whereas social arguments often favor the centers which are in trouble and need short term assistance. He believes that a rational regional policy should select those growth centers with a high degree of development worthiness - his measure of development worthiness being "the presence of a nucleus with at least 40,000-50,000 inhabitants, a favorable economic structure, a satisfactory level of amenities, sufficient local initiative and no excessive costs involved in future growth."⁸⁴ In essence, the growth center selected must have the potential and be expected to give the maximum possible returns for the investment put into it. Penouil also feels that the selection or formation of a given type of growth pole depends upon a number of factors among which "the nature of the growth activity (growth activities), the natural resources available; the importance and quality of infrastructures; structural elements such as social structures, education; level of income in the geographic area and its distribution," were mentioned as important.⁸⁵ Both men emphasize the structural aspects of the growth pole. This is very important because the mechanism by which a growth pole generates and diffuses socio-economic development and thus effects structural change is very much dependent upon the structural framework and dynamism of the center. Since every developing nation has a hierarchy of urban centers in its geographic territory,

⁸⁴ Leo H. Klassen, "Growth Poles In Economic Theory and Policy," in Growth Poles and Regional Policies, ed. Kukliniski and Petrella (The Hague: Mouton & Co., 1972), pp. 30-32.

⁸⁵ Marc Penouil, "Growth Poles in Underdeveloped Regions and Countries" in Growth Poles and Regional Policies, eds. Kukliniski and Petrella, op. cit., p. 121.

the selection should be made from among the hierarchy on the basis of the highest structural dynamism exhibited.

One of the greatest problems in the selection of the growth pole is the determination of the minimum and optimum size of such a center. A very small urban center cannot be expected to sustain the kind of services that a reasonably sized and dynamic region requires, while very large urban centers tend to become parasitic and less responsive to both internal and external changes and demands over time. It has also been established that there is a point beyond which the gains or advantages accruing from economies of scale and agglomeration are exceeded by the social and economic costs of maintaining them.⁸⁶

Many people have made suggestions on the minimum size of cities that is appropriate for a regional growth center, in terms of providing self-sufficiency and central-place services at a regional level. Though the figures suggested here are reflective of a developed economy, they could be useful as reference points for the determination of the sizes of regional growth centers in less developed countries. Morill mentions that a city will have to reach at least a size of between 250,000 - 350,000 inhabitants to acquire the threshold level for self sufficiency in central place services and high quality, cultural, educational facilities to attract modern industry at a reasonably high rate.⁸⁷ There seems to be little agreement on the size of growth centers. As Alonso points out the figures suggested consider only "the cost aspects of size and ignore the fact that we are dealing with an

⁸⁶ Morill, The Spatial Organization of Society, op. cit., p. 157.

⁸⁷ Ibid.

urban system of a hierarchical nature in which cities are of very different sizes, so that a single optimum size is infeasible in any case, unless the whole system is somewhat changed."⁸⁸ Thus he suggests that the size of the city must be considered also in relation to its productivity measured in certain terms like disposable income per head from which costs per head can be subtracted. His rationale for such a viewpoint seems to be that it produces a more realistic concept of the optimum size of cities since productivity and costs will vary presumably in some consistent fashion with size. Even with all these considerations, there seems to be no reliable knowledge of the relevant threshold of growth poles.

In less developed countries the establishment of a minimum and optimum size of a growth center should be made for planning purposes. At the initial stage, the synchronization of economic, political and social forces may dictate the selection of an existing urban center that has already established a dominance in the region in which it is located.

Another important problem related to the selection of growth poles in a nation is the number of poles. The number of growth poles selected is a reflection of the unique characteristic of each nation and is, of course, related to the number of regional units designated in the regionalization process. An important point to be taken into consideration in the decision is that the greater the number the weaker the impact of the centers will be. As Klassen pointed out, only a limited number of industries and other economic activities are usually in search of a location because financial assistance that can be given the initial period is in inverse proportion to the number of the centers selected. The larger the number of the growth poles, the

⁸⁸Darwent, "Growth Poles and Growth Centers in Regional Planning," op. cit., p. 24.

slower their development will be and the longer the period before the take-off size of each center is reached.⁸⁹ This is particularly true in less developed countries where the institutional, financial and other infrastructural frameworks are usually poorly developed or totally non-existent.

The Transportation Component

One of the most important aspects of the growth pole model is the transportation element. The role of transportation in the development process is particularly crucial in developing countries where the spatial infrastructure is weakly developed. The successful implementation of a regional development policy requires extensive capital investment on transportation networks. The improvement of transportation facilities should be made in such a way that it has significant sectoral and spatial implications in development. The major problem with the transportation facilities of developing countries is not only the lack of adequate network systems but also the colonial nature of the networks. In most developing countries, the major transportation characteristic that is readily observable is the lack of interconnections between the main routes that generally radiate from the capital city or the primate city. Such an alignment benefits the major city most and the peripheries are either completely isolated or marginally accessible.

Since the growth pole concept rests on the notion of interdependency and complementarity between the various regional units and nodal points, the need for investment in regional interconnections seems to be a major prerequisite for influencing the spatial organization of economic activities and

⁸⁹Klassen, "Growth Poles in Economic Theory and Policy," op. cit., p. 32.

settlement networks. The role of transportation in developing countries should not be limited to facilitating accessibility between the major national and regional centers alone. It should allow the movement of people, commodities and ideas within the designated regional units. In designing a national, regional and sub-regional transportation network system, care must be taken in determining actual and potential areas of interaction. The mere expansion of transportation facilities and improvement of the accessibility of regional units and nodal points does not necessarily mean that economic and social growth and development will be accelerated. It could result in a situation in which the major cities could become more attractive and increase their agglomerative powers and advantages as a result of the improvements in accessibility between the primate city and the regional centers.⁹⁰

The complexity, growth and size functions of a regional growth pole depends upon the dynamism of its hinterland. Thus the improvement of accessibility should be envisioned within the framework of strengthening spatial interaction between the regional centers and their hinterlands as well as with other regions and nodal points. The ultimate socio-economic objective of such a strategy should be spatial integration and a progressive replacement of the center-periphery relationship with a single system of cities throughout the geographical and economic space of a nation. Developing nations should not see transportation improvement as a short term strategy to facilitate movement but also as a tool of realizing long-term effects in modifying the spatial structure of society. As Morill correctly observes, "the economic and social cost of distance between locations which wish to interact is the fundamental

⁹⁰Howard L. Gauthier, "Geography, Transportation and Regional Development," op. cit., p. 617.

determinant of spatial structure."⁹¹

The role of transportation in the urbanization process is crucial. The fundamental reason for the urbanization process in any country is the desire of people to be more accessible to goods and services and new opportunities. Dynamic urban growth and industrial development are very much a product of the degree of accessibility and interaction. The role of transportation in the diffusion of information from larger urban centers to the lower hierarchies and their rural peripheries is critical in the development process of less developed countries, where the friction of distance has been found to have greater influence on the diffusion rates of innovation. Cities that are found further away from innovation generating centers will tend to receive less innovations over a given time period than more accessible centers irrespective of their hierarchical position.⁹² Fast and efficient means of transportation and communications, besides accelerating regional and national socio-economic growth and development, plays an important role in integrating a national economy and polity. Friedman notes that the role of transportation and communications in integrating a nation tends to reinforce the existing trend towards geographic concentration in the early stages of development. As higher levels of economic development are reached, the role tends to work in a reverse direction bringing greater national socio-economic and political integration.

The Institutional Component

The institutional element of the growth pole model probably holds the key to the success of a regional development policy. In less developed

⁹¹Morill, The Spatial Organization of Society, op. cit., p. 113.

⁹²John Friedman, Urbanization, Planning and National Development, op. cit., p. 73.

countries, one of the major problems that affects all aspects of developmental efforts and projects is the lack of sufficiently sophisticated and organized institutional framework. The problem manifests itself in many ways such as the paucity of capable administrators, technical know-how, financial sources, information, etc. The problem is well illustrated by the following United Nations reports' statement on the element of administration for development in Africa.

Local and regional participation is in a sense also an aspect of development consciousness of the population at large. In the case of Africa because of historical circumstances, development consciousness was slow in coming. Hence, initiative from the community did not emerge naturally. Where the rudiments of decentralization exist, problems of lack of coordination have hindered progress in effective decentralization Conflicts arise out of overlapping of duties and responsibilities between local governments and central government departments Problems have also emerged where community development departments have gone beyond their role of stimulating the population to participate in the development effort and have initiated and promoted a multitude of projects without consulting the local government bodies or government departments upon whom the burden of maintenance would lie. This often resulted in a dichotomy between community development and other governmental agencies. These uncoordinated efforts often confused the communities and weakened their belief in the value of self determination.⁹³

Though this particular statement refers to the problems of many African nations, it is by no means confined to Africa. Many of the less developed countries of Asia and Latin America are faced with various levels and shades of institutional deficiency and confusion.

One of the basic prerequisites for the successful implementation of a development policy based on the growth pole concept is the creation of a

⁹³United Nations, Administration for Development, Economic Commission for Africa, (1971) E/CN-14/VAP/184, p. 31.

vertically and horizontally articulated institutional framework both at the national and regional levels. Notwithstanding the very real and difficult problem of trained manpower shortage, paucity of financial resources and lack of development consciousness in the population, the creation of the institutional and organizational structure should be given priority in the development process of less developed countries.

A casual look at a typical situation in developing countries shows an extreme degree of centralization of political and administrative authority leaving the provincial and municipal institutional arrangements weak and ineffective.⁹⁴ Though such a centralization may be justified at the initial stage of development for various reasons, its long term impact on the spatial organization of economic activities and population settlement patterns seems to be adverse. In most developing countries, the problem of cultural pluralism is very much a reality. Thus extreme centralization of political and administrative authority would be interpreted with colonial overtones thereby creating strong sentiments for regional autonomy. Such a negative approach to regional problems could be removed by the institution of a regional administrative framework that is well articulated in its relationship with the various other regional units and the central authority of the nation. A regional administrative and political institutional framework, besides reducing stifling central dominance and control could bring about greater responsiveness of government departments to local problems and allow greater flexibility of action.

Because of the political nature of the problem and the great amount

⁹⁴ John Friedman, Urbanization, Planning and National Development, op. cit., p. 147.

of diversity in the conditions of less developed nations, it is not easy to make valid generalizations about the nature, strength and structure of regional administrative and political institutions that will have optimal results for overall national growth and development. However, some principles can be cited as relevant in deciding upon the institutions of regional administrative and political framework. One of the basic principles that should be closely adhered to is the understanding of the various physical, social, political and economic characteristics of a region. These realities have important bearing on the psychological preparedness and desires of the population in a region. A mere physical regionalization cannot be expected to change a traditionally bound and highly parochial society to any significant degree. We must also consider the important principle that the decentralization of socio-economic, administrative and political power and authority to the regional center necessitates a high degree of horizontal coordination.⁹⁵ The rationale for the creation of regional institutional frameworks and their vertical and horizontal articulation is not to form a mutually exclusive set of regional entities loosely tied to a national core but to form a highly coordinated and complementary system of national organizational and structural machinery.

The regional institutional structure envisioned in this model embodies three basic agencies - the administrative, the technical and the financial.

The Administrative Agency. The need for a strong, efficient and incorrupt administrative machinery is an essential prerequisite for the implementation of any development policy. One of the basic problems confronting

⁹⁵Niles M. Hansen, French Regional Planning, op. cit., p. 81.

less developed countries is the lack of such a machinery. The adoption of a regional strategy of socio-economic development particularly necessitates the building of an administrative agency that has the capability of making choices as to the order of priority and localization of investments. It should make the regional administrative machinery more operational by preparing the way for a closer association of local forces in the process of decision making.

It is suggested here that the administrative organs for regions should be responsible for laying down the regional targets and programs for reacting to the development needs and potentialities of all the area under their jurisdictions. It should have the function of closely supervising the execution of plans, making the necessary arrangements for financing the projects and providing the administrative and coordinating job required for a smooth and successful operation of development programs. The role of such a regional administrative agency in coordinating the works of various government departments or agencies is particularly crucial since one of the most clearly evident problems in many developing countries is limited interdepartmental cooperation.

Another important role of a regional administrative organ should be to facilitate the building of the social infrastructure of the region that will bring the whole of the population within the framework of the development process. It should create positive regional consciousness among the population in order to promote the social and economic growth of their area and approach their problems from a group focus. It should facilitate the transfer of information from both internal and external sources so that the people within the region will be able to make proper interpretation and use of the information in ways that will make it relevant to their local situations.

A regional administrative agency can help the emergence of a social organization conducive to the generation of innovative activity by providing a degree of autonomy that will provide the local population with the chance of relating to their problems by themselves. The absence of a broad base in decision-making is one of the most stifling problems that makes the administrative machineries of many developing countries ineffective, highly bureaucratic and corrupt. Thus the institution of a regional administrative and planning office linked to the national planning mechanism is essential to prepare detailed regional studies, offer advice to regional development institutions, defend and promote regional interests and coordinate the efforts of the other institutions and popular organizations.

The Financial Agency. Socio-economic development is a result of a large number of different activities scattered over various fields of economic and social activity. The effectiveness of these activities is very much dependent upon the financial resources available to them. Thus the creation of a regional financial institution is a crucial and indispensable element of the regional development strategy. Every regional unit should have a financial agency responsible for supervising the allocation and spending of money on the various projects in the region. It should insure that the budget allocated for the various socio-economic development projects is utilized in accordance with the regional plans' priorities and programs of development. Such an agency would also have a better leverage power for the mobilization of local financial resources.

The concentration of key financial institutions such as development banks, credit facilities in the capital city or the biggest cities is a common practice in many less developed countries. Even when such agencies have their

branches in the provincial and subregional centers, their role in the development process is too feeble to be a vehicle for significant changes in economic production and social change. Thus the establishment of an institutional framework which provides financial support and channels it according to well conceived development programs is an essential prerequisite for a dynamic development region. Mere transfers of money from the central government to cover expenditures in a region fail in their basic purposes of providing a permanent institutional structure by which regions can mobilize their own resources efficiently.

The Technical Agency. One of the major constraints hampering the extent and efficiency of regional, local and urban development planning and plan implementation in less developed countries is the lack of adequate data and the insufficient number of trained personnel. A technical agency at the regional level is thus an essential institutional element that should be responsible for fulfilling a number of purposes. These would include such fields as economic, demographic and social studies involving transportation and communications, urbanization, industrial and agricultural development, marketing organizations and related aspects of development. A workable approach to regional development should be based on a reliable and sufficient amount of knowledge of the historical realities, current dominating features and socio-economic functions as well as existing and anticipated socio-economic requirements. Development is a continuous process that requires a constant process of evaluation. Such an evaluation is not possible when there is no institutional mechanism that could supply the relevant facts at the proper times and appropriate levels. The provision of new information on various aspects of socio-economic development gives much needed insights into

the total process. The technical agency should be entrusted with the responsibility of undertaking feasibility studies in all aspects of development. Important elements include a knowledge of the availability and quality of local resources, sources of supply of essential parts of production, the pool of skilled or trainable labor, the carrying capacity of the transportation facilities for both supply and distribution purposes and the potential market for the products of the region. Without such information, both the planning and execution processes of development will suffer tremendously. Thus the establishment of an efficient body at the regional level should be one of the major prerequisites for the implementation of the growth pole policy of development.

The Roles of Government Commitment, Mass Involvement and Education.

An important dimension of the institutional aspect of the growth pole model is the role of government commitment, mass involvement and education. The adoption of a growth pole strategy of socio-economic development cannot succeed unless there is a complete or high degree of commitment on the part of all levels of the government machinery. The role of government as a goal setter, as a producer, regulator and as a fiscal agent in national and regional socio-economic growth and development is an essential and crucial element in less developed countries. In many less developed countries, government resistance to change for various political, social and economic reasons is a common phenomenon. Adam Curle has put the problem in a very articulate manner.

Some governments are not zealous for the development of all their people. Development to them is a desirable goal as long as it implies only the expansion of the resources of the ruling class or clique. Any spread of prosperity which might weaken their supremacy is to be

avoided. They aim to maintain the status quo, which means their own status.⁹⁶

Such lack of leadership and government commitment often creates a situation in which developmental programs, at whatever level, are bound to be piecemeal, ineffectual and misguided or at best of questionable value. Government structures must serve as change agents in the restructuring of society at all levels. The notion of economic growth and development should not be limited by a myopic emphasis on increased output and higher productivity but broadened to include the interrelationships that social, cultural and political structural changes bring about in the long run.

A regional development strategy cannot have significant influence on national transformation unless the whole developmental process is understood and supported by the masses. Such an understanding requires an acute awareness of the fact that development is a total action in which there are many pulls and cross-pulls among socio-economic and political forces. In developing countries the need for structural and attitudinal changes both on the part of those holding power and the masses is a prerequisite for any significant breakthrough in national transformation.

A regional growth and development policy should not be seen as an end in itself. It is a tool for a more rational and effective way of transforming society by overcoming the persistent problems of poverty, illiteracy, ill health and other socio-economic and political ills. The creation of a national economy and market system is made easier only when the great mass of marginal producers are integrated into the development process. Since the vast majority of the population of less developed countries are found in the rural areas,

⁹⁶Adam Curle, Educational Strategy for Developing Societies (London: Fletcher and Son Co., Ltd., 1966), p. 27.

an institutional framework that facilitates the active participation of the widest possible segment of this population rather than an elite minority is a necessity. The need and rationale for such strategy is best illustrated by the following United Nations Reports' statement.

Development of the rural areas is necessary, not only to improve the living standards of the rural population as it would be inequitable to provide the benefits of development for urban residents only, but also as a major source of income and foreign exchange earnings for economic transformation, the resources of the rural sector should be fully mobilized for balanced development. The rural sector not only provides the raw materials for export and for the manufacturing industries, it is also the main market for distributing the commodities of the industrial sector. Furthermore if the mounting emigration to urban areas is to be checked or reduced, it is necessary to improve the rural economy so as to provide employment and promote prosperity for the rural population.⁹⁷

Another important institutional element that plays an inordinate amount of influence in the development process is education. Education is a vital force in the development and transformation of any society. However, the wrong kind of education or disproportional amounts of it, could become a waste of economic resources. A casual look at the educational structure of less developed countries shows a rather strong urban bias. Education at all levels is more accessible and of better quality in larger urban centers and consequently disproportionate number of urban dwellers enjoy its benefits while the vast majority of the rural population has little or no opportunity. Of still greater significance is the structure and content of the education offered in the schools. In many less developed countries of Asia, Africa and

⁹⁷ United Nations, Administration for Development, op. cit., p. 55.

Latin America, the downgrading of technical and scientific education and the adulation of classical oriented subjects has been a chronic educational problem.⁹⁸ Such an elitist approach and attitude towards education, besides creating thousands of unemployable secondary school and college graduates, depresses the need for technologically trained people required for development. The educational system in many less developed countries is characterized by high drop-out rates at various levels of the educational hierarchy. In most cases the dropouts have not had sufficient or the right kind of education to impart useful skills but enough to generate a distaste for agricultural and manual labor. Ethiopia provides an excellent example of an elitist, urban biased and discriminatory educational system.⁹⁹

A development strategy based on a democratic principle of mass involvement requires an educational philosophy that makes a minimal level of education for the entire population possible. Rudimentary skills in literacy can open new avenues of thought and outlook for an illiterate population. It can familiarize them with ideas and concepts beyond which their local experiences provide.

⁹⁸ Adam Curle, Educational Strategy for Developing Societies, op. cit., p. 89.

⁹⁹ According to a report by Christopher Davis in African Development (May 1974), Vol. 8, No. 5, p. E 35, the educational system of the country had only managed to absorb some 17% of the primary school age group. Of this group, about 50% were enrolled in the towns and rural participation rates seldom rose above 2%. The secondary schools (the six years of junior and senior high schools) catered for only 4% of the same age group. The University, the highly selective culmination of the process catered to about 1% of this age group accepting an annual intake of about 1000 new students in a country with a population of over 27 million. At this rate, it was estimated that it would take 100 years before every child would have a chance to attend primary school.

The provision of educational facilities and opportunities without a corresponding analysis and increase in local employment situations results in the wastage of both human and economic resources. Since many of the less developed countries are predominantly agricultural, in their socio-economic structure, an educational system which provides greater involvement in the field of modern agricultural methods could make agriculture both more productive and attractive to younger people who now flock to the cities to seek employment. Such a situation besides draining the human resources of the local area, aggravates the employment situation in the cities. The role of education in the infusion of skills and knowledge to the agricultural sector through human capital could be monumental. As Meier observed:

In many countries that have experienced substantial increases in agricultural production the key factor has not been new land or land that is superior for agriculture; nor has it been mainly the addition of reproducible capital. More importantly, the agricultural transformation has been based predominantly upon new skills and useful knowledge required to develop a modern agriculture. Educational facilities for agriculture may also provide a way of encouraging rural school-leavers to take up work in the rural sector rather than migrating to the towns and the special training of young school leavers may allow them to act as the agents for introducing new and improved agricultural techniques.¹⁰⁰

Such contributions can be made when educational opportunities are more democratically distributed over the geographic landscape and integrated with the economic, social and cultural conditions and needs of the communities at the local, regional and national levels. The growth pole policy of development advocates the decentralization of decision making which includes the educational system's administrative and organizational structure.

¹⁰⁰ Gerald M. Meier, Leading Issues in Development Economics (New York: Oxford University Press, 1964), p. 271.

The Time Component

The application of a growth pole development policy requires a certain degree of socio-economic and political integration. Since the less developed countries of the third world show quite a wide range of socio-economic and political levels of institutional development, the application of the growth pole strategy would not meet with the same degree of success in all nations. Obviously, such hyperurbanized countries as Chile with a 1970 percentage of urban population of 73.3¹⁰¹ would find it much more convenient to institute polarized development than such poorly urbanized countries as Ethiopia with a 1970 percentage of urban population of only 9.4.¹⁰² Thus it is appropriate to consider the time component in suggesting the adoption of the growth pole strategy as a national policy of socio-economic and political development. The time component is expressed in terms of development objectives at various stages of development rather than a specified time interval required for realizing the objectives. In this regard, the first three stages of development expounded by Rostow seem to be relevant and useful as a basis of defining objectives of the growth pole strategy. These stages include "the traditional society," "the preconditions for take-off" and "the take-off."

Rostow describes the traditional society as one whose structure is developed within limited production techniques as a result of which a very high proportion of the society's resources are devoted to agriculture. Spatially such a society is characterized by very poor integration and accessibility. Socially, the hierarchical structure of such societies allows little

¹⁰¹John Friedman, Urbanization, Planning and National Development, op. cit., p. 95.

¹⁰²Central Statistical Office, Ethiopia: Statistical Abstract - 1970 (Addis Ababa: Central Statistical Office, 1970), p. 26.

scope for vertical mobility.¹⁰³ Under such circumstances, the major objective of a growth pole development strategy would have to be the creation of the institutional and infrastructural frameworks by which a maximum degree of national integration and involvement could be enhanced. At this stage, the implementation of the growth pole strategy could not be expected to bring about significant levels of economic benefits or a high level of regional and national interaction. Thus, it seems both rational and appropriate to lay the foundation for the implementation of the strategy by designating the development regions and establishing the structure of the national and regional urban hierarchy. The time required for a successful implementation of such a policy obviously depends upon a number of physical, social, economic and political factors. With government commitment and goodwill, the task of laying the institutional basis for development objectives could be considerably lessened. The Chinese experience since the communist revolution is viewed by many as an example of a successful undertaking along the line of institutional development. A broad-based program of literacy, improvement of health, improvement of accessibility and the politicization of the masses could be promulgated without expensive and sophisticated machinery or capital. According to Buchanan, "one of the greatest resources of the underdeveloped countries is their people, and as China has illustrated, the mass mobilization of millions of hands can be used as a partial substitute for machinery and capital to bring the leap from poverty to decency; this turning of labor into capital is, indeed, one of the lessons of Chinese experience most widely applicable to other countries of the third world."¹⁰⁴

¹⁰³Gerald M. Meier, Leading Issues in Development Economics, op. cit., p. 5.

¹⁰⁴Keith Buchanan, "Profiles of the Third World," op. cit., p. 33.

The second stage of development that Rostow identified is the precondition for take-off. At this stage a nation is in a state of transition and has reached a point where it can make use of the benefits of modern science for socio-economic and political development beyond the piecemeal level. At this level, investment increases in all sectors of the national economy, notably in transport, communications and in raw materials both internally and externally. However this stage is still characterized by traditional low-productivity methods, social values and structures that are old and rather inflexible. Many of the countries of the third world find themselves at this stage and the dualistic nature of their socio-economic, political and spatial structures and organizations attests to the persistence of the modern economic activities and production techniques with the traditional ones. Rostow sees the political change of this stage much more fundamental than socio-economic progress, for at this stage the country has supposedly achieved the building of an effective nation-state and a well developed sense of nationhood.¹⁰⁵

The objective of a growth pole development strategy in countries that have attained a sufficient level of economic development is the strengthening of the political and economic forces that weld the often diverse population of the nation together. This would involve the acceleration of the process by which the peripheral regions of every regional unit are tied not only to their regional centers but also to the nation strongly. The improvement of agricultural, industrial and transportation aspects of development at this stage would give a clear formation of a system of places interlinked in geographic and economic space.

¹⁰⁵ Gerald M. Meier, *op. cit.*, p. 15.

The third stage of development is the take-off stage in which a country is supposed to have achieved a certain degree of political, social and economic revolution to place it on the path of positive and sustained self-reinforcing development. According to Rostow, this is evidenced by changes in the balance of social power politically, the character of the economic institutions, distribution of income, patterns of investment outlays and the proportion of potential innovations applied. This stage is supposedly the most decisive in society since it implies a considerable ability to mobilize capital from domestic sources.¹⁰⁶ From a spatial organization of society, the period could be likened to the emergence of strong regional centers as not only centers for expediting national development programs but also as strong economic entities with a well developed system of complementary ties with other regional centers.

Development is a complex historical process in which the man-nature relationship evolves in a particular geographical territory through time. At any given time, one or a few components may predominate and govern the evolution of the others. The growth pole development policy could provide the general framework through which a national system of places could evolve through time.

¹⁰⁶Ibid., p. 5.

CHAPTER V

THE RELEVANCE OF THE GROWTH POLE STRATEGY TO ETHIOPIA

Like many less developed countries of the third world, Ethiopia finds itself in the formative stage of modern socio-economic and political organization and development, faced with the familiar problem of disequilibrium between a small core and a vast periphery. Both in terms of institutional and organizational authority, the capital city, Addis Ababa, commands an overwhelming dominance. Such excessive polarization of socio-economic and political development in one major center accentuates the differences between the core and the periphery thereby building tensions that are detrimental to overall national socio-economic and political integration.

Under such circumstances, the prime task of the national government should be the institution of the organizational and structural framework at the regional level with the objective of creating self-supporting dynamic regional economic units. The growth pole model suggested for less developed countries is advocated as a strategy of development in Ethiopia with the firm belief that it would provide a rational framework by which a change in socio-economic settings, technology and production could be successfully effected.

Ethiopia - A Profile

Since Ethiopia has been chosen as a country of reference with regard to the regionalization and urban hierarchical structure implied in the growth pole strategy, it seems appropriate to provide a brief profile of the country.

With an area of about 1,221,900 square kilometers and an estimated population of 27 million, Ethiopia is one of the larger political units in

Africa both in terms of size and population. The estimated annual population growth of 2.5% should bring the population of the country to 31.4 million by 1980. At this rate the population of the country will double in 26-27 years. In 1970, only 9.4% of the population lived in urban areas - localities of more than 2,000 inhabitants, though the urban population was increasing at about 6.5% yearly. With this growth rate, it was estimated that the urban population of the country will double in 11 years and constitute 14% of the total population by 1980.¹¹⁰

Agriculture is the most important sector of the Ethiopian economy. It is estimated that it earns 99% of the national exports, engages 88% of the total population and contributes about 65% to the national gross domestic product. Industry is at its infancy despite the fact it has been growing at about 16% a year during the past decade. Its impact on the total economic life of the country is rather insignificant since it accounts for only 5% of the gross domestic product. In terms of international trade, the country heavily depends on the export of agricultural products, mainly coffee, which accounts for about 55% of the export revenue (1971), and such other products as hides and skins and oilseeds.¹¹¹

The organization of the country's economy shows the typical dualistic characteristic in which a small modern sector produces goods and services for the market while the large subsistence sector produces goods for home consumption. The administrative organization of the country is based on a three tier

¹¹⁰Central Statistical Office, Ethiopia - Statistical Abstract, 1970, op. cit., p. 23.

¹¹¹African Development (London: Pensor Press Ltd.) May 1973, Vol. 8, No. 5, p. E 3.

classification. The country is divided into 14 governorate generals (tekilai Gizats) which are divided into 101 provinces (Awrajas) which are further subdivided into 516 districts (woredas). The regional administrative structure is centered at the governorate general level.¹¹² In terms of authority-dependency relationship, all the important political, social, and economic decisions are made and approved at the national capital, Addis Ababa, leaving little authority to the governorate generals. Such a structural organization has created an administrative machinery which is highly inefficient and bureaucratic at all levels of the national administration.

The need for the decentralization of power was felt in 1966 when a law calling for the creation of popularly elected councils to take over the functions of the local administration at the provincial level was passed. These councils were to be assigned responsibility for primary education, public works, local public health and rural and town marketing. Their projects were supposed to be coordinated in such a way as to conform to the standards of the concerned government ministry. They were also to be provided with the latitude of drafting their own budgets and the power to levy their local taxes and seek funds from the central government. They were to be under the overall supervision of the governorate general in which they are found. However, for various unexplained reasons, the central government has not yet implemented this plan.¹¹³

It is in light of such structural and organizational deficiencies that the notion of growth pole development strategy is proposed as a relevant

¹¹²Central Statistical Office, Ethiopia - Statistical Abstract, 1970, op. cit., p. 26.

¹¹³Irvin Kaplan et al., Area Handbook for Ethiopia (Washington, D.C.: U.S. Government Printing Office, 1971), pp. 286-287.

and useful means of realizing national development objectives in Ethiopia. The proposal advocates the regionalization of the country into seven development and territorial units each having a major growth pole of its own. Along with the regionalization of the country, a hierarchical system of urban centers over the national territory is envisioned as a means of creating a network of nodal regions that will tie the country economically, politically and spatially.

Ethiopia - Hypothesized Regionalization

When examining the conceptual regionalization model suggested here for Ethiopia, it would be wise and useful to bear in mind certain considerations. First, the model is suggested as a means of decentralizing economic activities over the national geographic space in order to create a more equitable distribution of social welfare. Secondly, the model should be viewed as a simple model that emphasizes the spatial aspect of economic growth and development over a national landscape. It has been devised with the belief that it could be useful in generating some insights on the incidence of economic and social growth and development in national geographic space based on a set of regional institutional and organizational structures. I have attempted to make the model reflect the socio-economic and political realities in Ethiopia. In essence, the model will have to be seen as an attempt to estimate a kind of public policy framework which might be useful to developing countries as a tool of national socio-economic and political development.

I believe that the creation of national development regions and a hierarchical system of cities over the geographic space of a nation is a viable strategy for accelerating development both at the regional and national

level. The seven growth poles selected for each of the proposed regional units are centered on towns which have already a hierarchical significance within the nations' urban system. Most of the growth centers suggested in the model have some infrastructural framework that could help initiate development programs in their respective regional development units. The prime task of these growth centers as integrators of a poorly connected country will be to establish strong links with the propulsive forces in the higher hierarchical urban centers with the purpose of transmitting the growth and development impulses to the lowest spatial order in the national urban hierarchy. The creation of such a hierarchical system of interdependent growth poles over the national geographic space is hoped not only to remove economic peripherality that now plagues the country but also contributes to the formation of a balanced and more equitable distribution of national development projects and efforts.

Ethiopia - Hypothesized Regional Units. The bounding of a region or sets of regions is one of the basic problems facing geographers. As Folke points out, "in the delimitation of a region the aim throughout is to maximize at the same time the unity or cohesion within the region and the difference or disjunction from the surrounding areas."¹¹⁴ While no distinct set of criteria have been used to regionalize Ethiopia, the aim has been to create functional regions composed of areas and points which are interconnected by physical, social, economic and administrative factors. In the delimitation of the boundaries of the seven regional units proposed, the functional aspect

¹¹⁴Steen Folke, "An Analytic Hierarchy in Comparative Regional Study," in Man, Space and Environment, eds. P. W. English and R. C. Mayfield (New York: Oxford University Press, 1972), p. 443.

has been given more weight. Such factors as physical size, population size and distribution, transportation patterns, resource endowments and economic viability and administrative organizations have been taken into account, though in a very subjective manner. The seven hypothesized regional units proposed in this paper include:

A. The Shoa-Arussi Regional Unit. This unit consists of two governorate generals which lie in the geographical center of the county (Map 1). The combined area of the two governorate generals is about 108,700 square kilometers. With a population of about 6,665,000 (1970), the regional unit is the most populous of all the other hypothesized regions. The percentage of population living in urban centers of 2,000 inhabitants and over was estimated at 6.1% for Arussi and 20.8% for Shoa (1970). The rather inflated rate for Shoa is accounted by the capital city, Addis Ababa, which is the largest urban agglomeration in the country both in terms of size and population. Forty six towns exceeded 2,000 inhabitants in 1970 but only nine of these urban centers had populations of over 10,000. When expressed in absolute terms, about 1,094,800 people lived in centers of 2,000 or more while 5,570,200 people lived in rural areas.¹¹⁵

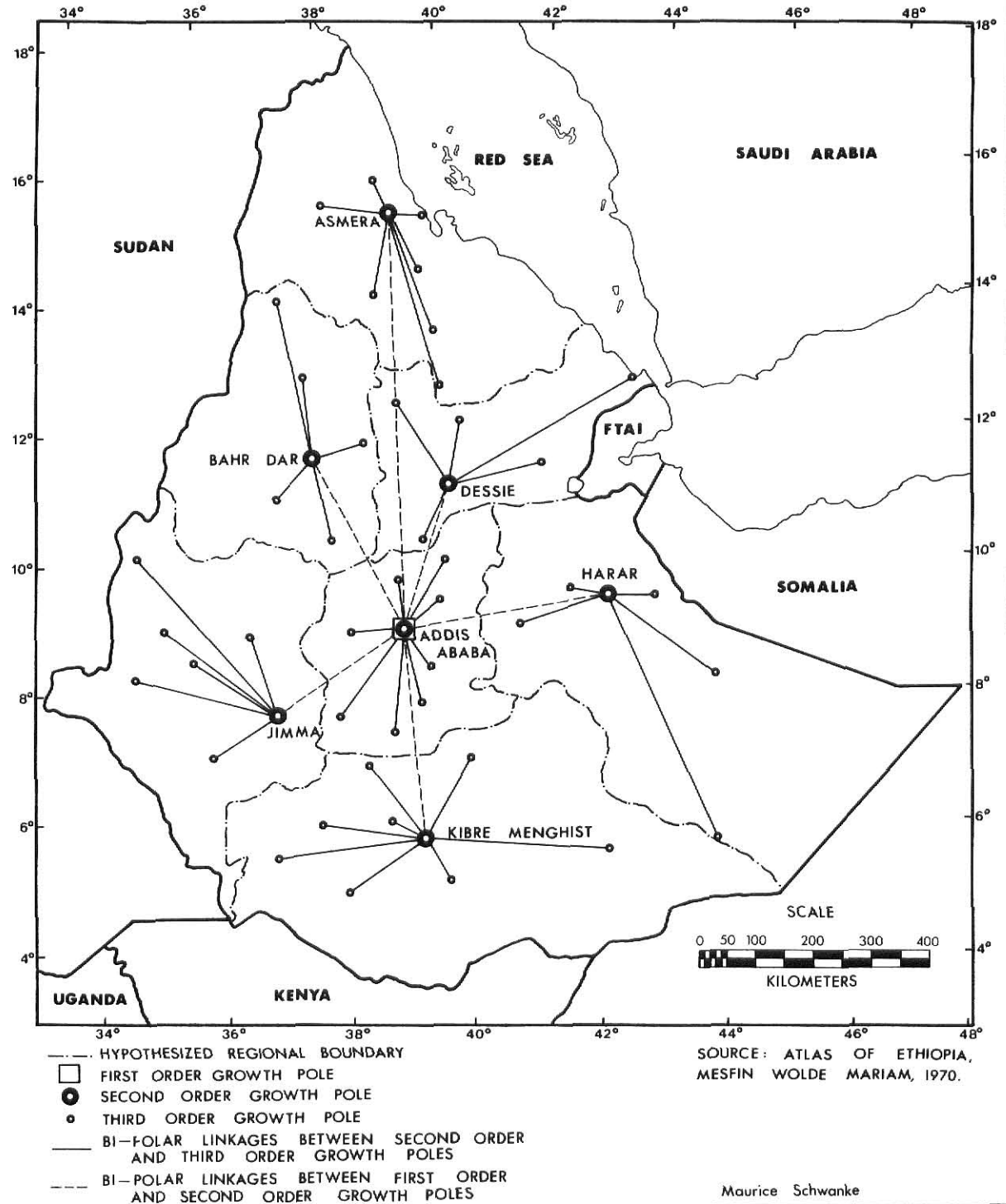
As the seat of the national capital and government institutions, the region is connected with most of the other governorate generals by a system of roads, railways and air transport facilities.

B. The Hararghe Regional Unit. This unit constitutes the largest governorate general in Ethiopia, occupying about 259,700 square kilometers of land. Its population was estimated at 3,215,600 in 1970 making it the second

¹¹⁵ Central Statistical Office, Ethiopia - Statistical Abstract, 1970, op. cit., p. 26.

MAP 1

ETHIOPIA - HYPOTHESIZED REGIONALIZATION, URBAN HIERARCHY AND INTERLINKAGES



most populous governorate general after Shoa. 5.2% of this population were classified as urban or living in centers of 2,000 people or more. About 18-20% of the total population of the region are believed to be nomadic. The urban centers with over 2,000 people were numbered at 15 out of which only 2 had populations of over 10,000.¹¹⁶ The region is connected with the capital city, Addis Ababa, by a road and railway system as well as by air transport. Large parts of this region are very sparsely populated and poorly interconnected.

C. The Bale-Sidamo-Gemu Gofa Regional Unit. Composed of three governorate generals, the regional unit covers an area of about 281,400 square kilometers thus becoming the largest unit in terms of physical size. The combined population of the three governorate generals is estimated at about 3,231,300 (1970). Of this population, about 173,700 were classified as urban with the percentages of urban population for each governorate general being estimated at 12.8% for Bale, 4.9% for Sidamo, and 4.9% for Gemu Gofa. The distribution of people also shows considerable variation from one part to the other. The two governorate generals of Sidamo and Bale are directly connected by a dry weather road system with the central regional zone while Gemu Gofa is still poorly accessible from the capital city. Interregional interconnection is almost totally absent.

D. The Keffa-Illubabor-Wollega Regional Unit. This unit also consists of three governorate generals with a combined area of about 173,200 square kilometers, and a population of approximately 3,493,800 (1970). The percentage of population living in urban settlements of 2,000 and over was 5.7% for Keffa, 4.1% for Wollega and 3.3% for Illubabor. There were 20 urban

¹¹⁶Ibid.

settlements with populations of 2,000 and over in 1970, of which only 3 were believed to have over 10,000 inhabitants. In absolute terms, the number of people living in centers of 2,000 and over was about 143,000.¹¹⁷

In terms of transportation facilities and patterns, the governorate generals of Keffa and Wollega are directly connected with the central regional unit by road systems while Illubabor is still largely inaccessible. The services of the Ethiopian Airlines have been more concentrated in this regional unit than in any other region. It should be pointed out that only some parts of the governorate generals are linked with the capital city by road. The vast rural hinterland is devoid of any significant level of modern transportation facility. There is very little interregional interconnection by road.

E. The Gojjam-Beghemedir Regional Unit. This regional unit consists of two governorate generals with a combined area of about 135,800 square kilometers. The total population of the two governorate generals was estimated at 2,962,300 in 1970. Of these only some 164,900 people were classified as urban with the degree of urbanization in the two governorate generals being only 4.8% for Gojjam and 6.3% for Beghemedir. Twenty-two towns were believed to have inhabitants of 2,000 or over, out of which only 3 had population exceeding 10,000.¹¹⁸

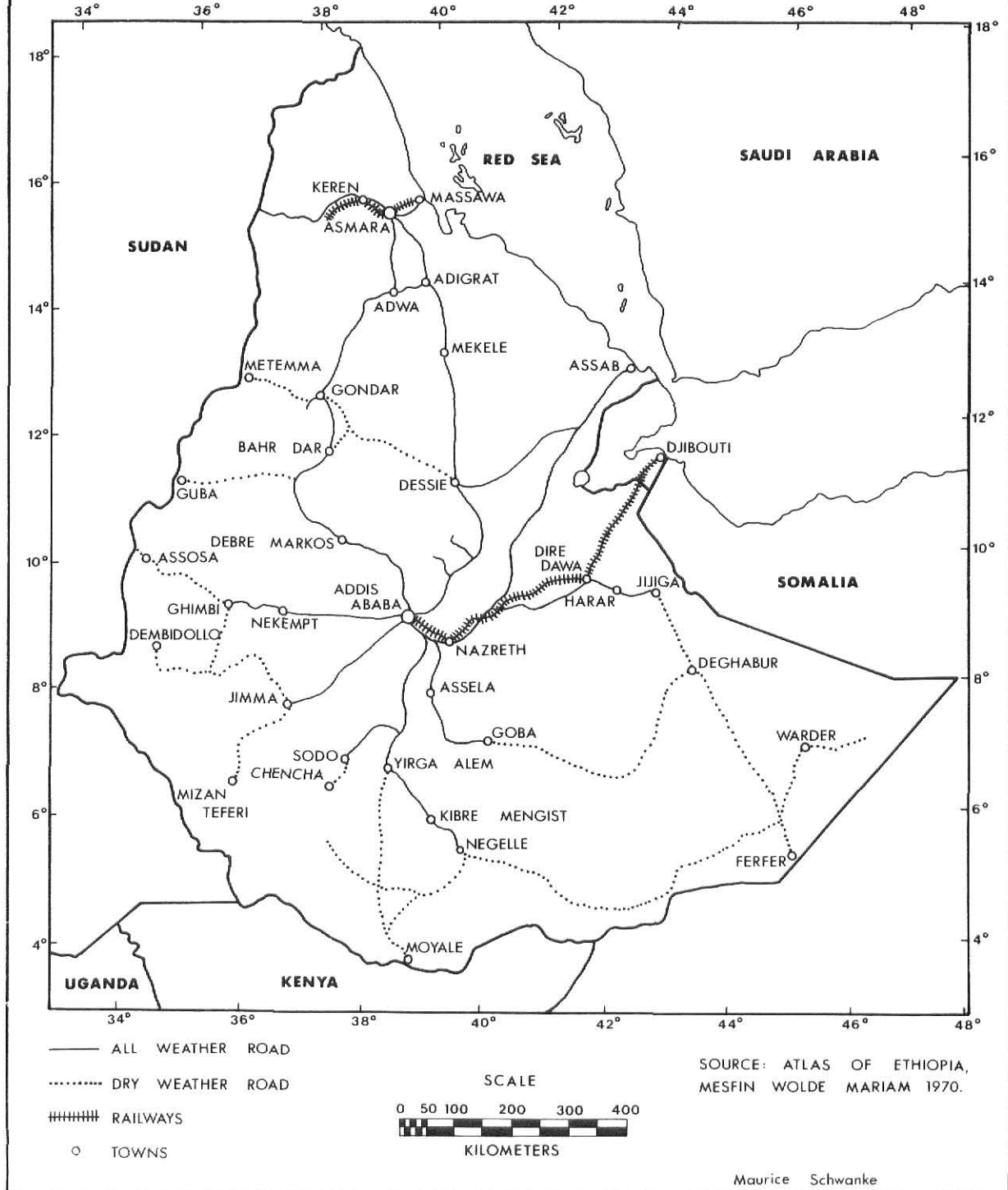
The transportation pattern is characterized by a single road connection with the central regional unit and the northern regional unit. As Map 2 indicates there is very little interregional connection and much of the

¹¹⁷Ibid., p. 30.

¹¹⁸Ibid., pp. 28-29.

MAP 2

ETHIOPIA - ROAD AND RAILWAY TRANSPORT SYSTEM



Maurice Schwanke

countryside is totally inaccessible to modern means of transportation.

F. The Wollo Regional Unit. This is the smallest regional unit among those proposed. It is also in this regional unit that the functional administrative boundary used as a criterion of regional boundary delimitation has been violated in favor of the economic and transportation linkages. In the delimitation of the eastern boundary of this regional unit, a small part of Eritrea has been incorporated into its territorial extension. Thus the Wollo regional unit, besides its 79,400 square kilometers of land has an additional area incorporated into it from southern Eritrea.

The population of the governorate general was estimated at 2,355,600 in 1970. Including the population of the port city of Assab in Southern Eritrea and the surrounding area, the total population could be estimated at close to 2.5 million. The percentage of urban population in the governorate general was 4.5% and there were 12 towns with populations of 2,000 and over. Of these, only 3 had populations of over 10,000.¹¹⁹

The regional unit is connected by a road system with the central regional unit, the port of Assab and the northernmost regional unit. Inter-regional transportation facilities are however lacking and most parts are inaccessible to modern traffic.

F. The Eritrea-Tigre Regional Unit. This unit comprises the two northernmost governorate generals of Tigre and Eritrea. Including the small area incorporated into the Wollo regional unit, it has an area of about 183,500 square kilometers, and a population of about 3,585,000. In 1970, 445,200 people were classified as urban dwellers while the remaining were living in the rural areas. The percentage of urban population for Eritrea

¹¹⁹ Ibid., pp. 28-32.

was 17.5% and 7.1% for Tigre. Thirty-five towns were classified as having population of 2,000 or more out of which seven had populations of over 10,000.¹²⁰

The transportation system of this part is relatively more developed in comparison with the other parts of the country. The internal accessibility of places in Eritrea is probably much more than that of any other single governorate general in the country. Besides the road and railway system serving the area, it also provides an outlet for all of the goods exported from the whole country through its two ports of Massawa and Assab.

The Proposed Growth Pole Urban Hierarchy

The notion of regional development is strongly related to the formation of a hierarchy of urban centers over the geographical space of a nation or region. Basically, it rests on the idea that developing regional and sub-regional urban agglomerations would constitute a stimulating force within the respective territorial sphere of influence of each agglomeration. The model suggested here for Ethiopia stipulates the creation of a three-tier hierarchy of urban centers over the national territory at the initial stage of the application of the growth pole strategy in order to facilitate the initiation of a progressive and dynamic program of socio-economic development. Urbanization, in both its socio-cultural and demographic meanings can exert a positive, constructive influence on the developmental process of any nation. The selection of the towns at the various hierarchical levels has been strongly influenced by the present significance of these towns in terms of total infra-structural development.

¹²⁰Ibid.

The First Order growth pole represents the superior level in the proposed national urban hierarchy. In Ethiopia, this level corresponds to the capital city, Addis Ababa. Besides being the largest urban-industrial agglomeration in the country, the city is also the political, educational, economic, cultural and transportation center of the country. Its predominant position in all fields of national development has affected the political climate of the country and had direct bearings on the capacity for expansion of the national economy by its power to define most of the crucial issues for public policy. Although recent political developments in the country seem to indicate a swing towards a decentralized administrative and institutional organization and strategy, the role of Addis Ababa as the national capital and the most important commercial, industrial, transport and cultural center is not likely to be jeopardized. Thus Addis Ababa has been selected as the highest order urban center in the proposed national urban hierarchy. It has also been selected as the most strategic point for the second order urban center within the hypothesized regional unit.

The second order growth poles in the proposed urban hierarchy correspond to the seven regional urban centers chosen for each of the hypothesized regions of the country. They include the capital city, Addis Ababa, and six other intermediate urban centers whose significance, though much less than the first order city, should be developed as a counterweight to the capital city. It is proposed that priority in public investment in all fields of socio-economic development be given to these proposed regional urban centers in order to equip them with a sufficiently complete range of services and activities that would enable them to cater to the needs of their respective regional hinterland.

At the present time there are fourteen provincial capitals that serve mainly as administrative outposts. The designation of all these centers as second order regional growth poles, though rational from such points of view as physical size and population distribution, does not seem to be economically feasible and practically operational. Lowering the number of the regional growth poles of the second order to seven was partially motivated by the notion that both quantitative and qualitative changes can be made within a shorter period of time if the number of investment seeking centers is smaller. The seven second order regional growth poles selected for this model are those urban centers that already have a significant level of commercial, industrial, cultural, political and transportational infrastructure. However, all are not necessarily the biggest urban agglomerations nor have the highest level of infrastructural development within their respective regions. At least, in one case, the choice has been more motivated by locational rationality than infrastructural development or dominance. The second order growth poles selected for the seven hypothesized regions are shown in the following table.

Table 6

Ethiopia - Proposed Second Order Growth Poles

Region	Proposed 2nd Order Growth Poles	Population (1972)
1. The Shoa-Arussi region	Addis Ababa	912,090
2. The Hararghe region	Harar	48,440
3. The Bale-Sidamo-GemuGofa	Kibre Mengist	8,870
4. The Keffa-Wollega-Illubabor	Jimma	47,360
5. The Gojjam-Beghemidr region	Bahr Dar	26,480
6. The Wollo region	Dessie	49,750
7. The Eritrea-Tigre region	Asmara	249,110

Source: Imperial Ethiopian Government, Central Statistical Office, Statistical Abstract, 1970 - Ethiopia, Addis Ababa, pp. 24-28.

The development of these regional growth poles should be planned and directed in such a way as to make them capable of offering advantages and services that can be compared to the national capital in most areas of socio-economic activities and developments.

The Third Order growth poles suggested represent sub-regional urban centers within the various parts of the hypothesized regional units. These cities should develop as links between the countryside and the regional growth poles. It is suggested here that investment in these third order urban centers should reflect the possibility of providing the kind of services that the users are in very great need of. In a highly rural country like Ethiopia the role of these sub-regional urban centers in the dissemination of information and innovation is paramount. In the selection of these urban centers, I have been biased towards those provincial and district capitals that have already developed a certain degree of institutional and infrastructural framework. However, some of them were selected largely on the basis of geographic centrality from both the physical and demographic points of view rather than their significance as urban agglomerations in the present urban hierarchy of the country. The following tables show the proposed third order growth poles for each of the hypothesized regional units.

These third order growth poles are very useful foci not only because of their roles as linkage points between themselves and the rural periphery but also have great structural and strategic significance as centers of rural organizations. Thus the need to strengthen this lower end of the proposed hierarchy is not only to carry out the function of serving rural areas as marketing, distribution and service centers but to encompass a settlement pattern based on the full spectrum of central places. As Friedman has noted, the role of small and medium size centers is crucial in the urbanization of

Table 7

Ethiopia - Proposed Third Order Growth Poles for Each Regional Unit

Regional Unit	Name of Urban Centers	1972 Population
A. Shoa-Arussi	1. Nazreth	45,280
Regional	2. Assela	19,390
Unit	3. Debre Berhan	17,940
	4. Shashemene	13,840
	5. Fitcha	12,830
	6. Ambo	11,020
	7. Hosaina	9,020
	8. Mehal Meda less than	2,000*
B. Hararghe	1. Dire Dawa	66,570
Regional	2. Asbe Teferra	10,960
Unit	3. Jijiga	8,570
	4. Deghabur less than	2,000*
	5. Quellafo	2,000*
C. Bale-Sidamo-Gemu Gofa	1. Dilla	14,910
Regional	2. Awasa	16,790
Unit	3. Goba	13,500
	4. Negelle	9,350
	5. Baki	9,160
	6. Arba Minch	7,660
	7. Yabello	4,040
	8. El Kerre less than	2,000*
D. Keffa-Illubabor-Wollega	1. Lekempti	18,310
Regional	2. Dembi Dolo	8,160
Unit	3. Metu	6,860
	4. Mizan Teferra	4,110
	5. Gambella	2,300
	6. Assosa less than	2,000*
E. Gojjam-Beghemidr	1. Gondar	38,600
Regional	2. Debre Markos	30,260
Unit	3. Debre Tabor	9,340
	4. Bure	6,570
	5. Humera	4,303
F. Wollo	1. Assab	17,220
Regional	2. Sekota	11,810
Unit	3. Woldia	10,230
	4. Werre Illu	3,700
	5. Asaita less than	2,000*
G. Eritrea-Tigre	1. Mekele	30,780
Regional	2. Massawa	21,360
Unit	3. Axum	13,770
	4. Addigrat	10,020
	5. Maichew	8,310
	6. Agordat	18,620
	7. Keren	24,510

*Estimates

Source: Imperial Ethiopian Government, Central Statistical Office, Ethiopia - Statistical Abstract, 1972.

the countryside. Bringing traditional peasant cultures into closer contact with urban values is necessary in order to improve agricultural development and effect socio-economic and cultural transformation on a wider basis. The third order growth poles should thus be developed as centers of vital and diverse sets of services and activities relevant to the needs of the rural population.

Once, the structural organization of the various hierarchical urban centers is significantly and solidly established, a fourth order urban hierarchy consisting of smaller towns could be created to facilitate a greater diffusion of innovation to the lowest settlement pattern in the nations' geographic space.

Operation of the Model

The understanding of the theoretical basis for the operation of the growth pole model suggested by this paper is appropriate in order to weight the relevance and usefulness of the concept to less developed countries. The discussion will be based on the hierarchical system of urban centers advocated for Ethiopia.

The basic assumptions made in the discussion of the operational aspect of the model should be stated before we venture into the mechanisms of the operation. One of these assumptions is that polarization is a dynamic process of structural evolution in which not only economic changes are envisioned but also spatial, sociological and institutional ones. It is a total action that cannot be restricted to narrow economic objectives. Another important assumption that should be born in mind is that polarization processes and policies differ with the economic system in which they operate.

The operation of the growth pole model in a dualistic, semi-market

economy such as that of Ethiopia is not an easy task. It is likely to be impeded or distorted by several socio-economic, spatial and political constraints. The deformities that characterize less developed countries in labor, capital, transportation, institutional infrastructure have a damaging impact on the smooth progression of the polarization phenomenon. Penouil has expressed the problem in an insightful manner in the following statements.

In underdeveloped economies as in underdeveloped regions, the establishment of mechanisms for the diffusion of growth and of development is difficult. The reason may be found at the same time in the milieu in which the activities have been set and in the mistakes made in the development policy. The milieu . . . is generally a powerful brake in the development process, not only because of the social structures which stand in the way of innovations, but also because of a production structure which is not enough diversified and does not permit the establishment of complementary relationship. The implanted growth activity cannot but turn outside and thus it permits the creation of a point which contributes little to the desirable structural changes. The dominating role of the production of these growth units in relation to local needs is perfectly justified with regard to the criteria of productivity, profitability, gains, interior and exterior revenues; but selling to the exterior of almost the whole production is the reverse of the medal. The orientation towards the exterior for the supplies as well as for outlets . . . implies important gaps in the growth mechanisms, but it constitutes also a short term incentive to growth.¹²¹

Thus the success of the polarization phenomenon and the proposed model in this paper should not be seen in terms of economic gains and costs in each of the hypothesized regions and growth poles in isolation. Due credit must be given for the level of interdependency that the process facilitates between the various regions and poles. The very essence of dividing Ethiopia into seven regional development zones has been to create a complementary situation

¹²¹Marc Penouil, "Growth Poles in Underdeveloped Regions and Countries," in Kukliniski and Petrella, eds., op. cit., pp. 130-131.

between the various regions thereby facilitating the evolution of a highly integrated national socio-economic and political entity.

From a geographical point of view, the growth pole notion of development implies the agglomeration of social and economic complexes in a particular geographical space. As Philbrick observed, human occupance is focal in character and thus an activity of any establishment in any areal organization has a focus in some parts more than in others.¹²² The agglomeration of social and economic activities is strongly controlled by communications over space - geographical, technical and psychological. Thus the interconnection of points is responsible for making these particular areal units of organization larger and more complex than small individual settlements. The whole notion of creating strong second order growth poles in the model is motivated by the idea that they would serve as focal points for the hypothesized regions thereby reducing the dependence of the settlements, villages, towns and cities within the regions on the first order urban centers such as Addis Ababa. The second order growth poles will have to be made demographically and organizationally larger and stronger than the other urban centers within their respective regions. At the present time, the two strongest urban agglomerations in the country are Addis Ababa, the capital city, and Asmara, the second largest city. Thus the primary task of the growth pole strategy of development at the initial stage will be to set in motion the other proposed growth poles more actively by creating the institutional socio-economic and political organizations in order to make them more dominant than the other agglomerations within their territorial spheres of influence. As Darwent points out,

¹²²Allen K. Philbrick, "Principles of Areal Functional Organization in Regional Human Geography," in Economic Geography, Vol. 33, No. 4 (1957), p. 305.

. . . the sphere of influence of a particular growth pole will be proportional to the size of the city; economic growth will be a function of distance from the central city; growth potential between two cities will be a product of their size divided by their distance apart and economic change will tend to be transmitted from higher to lower orders in the hierarchy.¹²³

The areal relationship of a growth pole with other centers in the national urban hierarchy could be described as taking place in two ways simultaneously. In one case, it is a parallel relationship with other similar type units. The second order urban centers in the national urban hierarchy could have a significant degree of interconnection over time as they mature and seek greater complementarity. In the operation of the growth pole model, it is suggested that the integration of second order growth poles into a national system could best be done in the second phase or stage of polarized development. In another case, the relationship of a growth pole becomes a series of interconnections between unlike elements or establishments focusing upon the core of a nodal area of functional organization. This involves the relationship between second order and third order centers and first order centers, too. From the spatial point of view, the interrelationship that exists between the various hierarchical urban centers vertically and horizontally is very crucial to the successful integration of the national geographical and socio-economic space.

From a technical point of view, polarization is a process whereby activities are industrialized or diversified starting from a single industry or a complex of propulsive industries.¹²⁴ Industrial development in each of

¹²³Darwent, "Growth Poles and Growth Centers in Regional Planning," op. cit., p. 18.

¹²⁴Jacques R. Boudeville, "Research Plan for an Analysis of Polarization," in Kuklinski and Petrella, eds., op. cit., p. 176.

the proposed second order growth poles is deemed an essential prerequisite to instigate socio-economic development over all parts of a nation. It is assumed that the role of investment both in the long term and short term will create the interindustrial push and pull thus giving an incentive to further investment. As Boudeville explained, concentration of industries at the second order growth poles in the initial phase of the application of the growth pole policy will have a multiplying effect on other activities, acceleration effect on general growth and development, and trickling down or downstream and lateral push effect by the diffusion of innovation, activities both in vertical and horizontal economic and geographic space.¹²⁵

In concentrating investment at the second growth poles, care must be taken in understanding the current working conditions in each of the poles. The institution of initial investment along sectoral lines and the creation of the necessary social infrastructure is advocated because these processes are presumed to release the tempo for greater urbanization, industrialization and increasing income. This view is supported by Redfield who contends that "as more activities locate at a node agglomeration diseconomies will increase in the form of higher rents, taxes, wages and saturated markets. Thus entrepreneurs will prefer to locate at nodes with lower costs and with unexploited markets where opportunities are high and risks are low."¹²⁶

The choice of investment types and sequences is important both from the temporal and spatial points of view. Investments in the industrial, agricultural and service sectors should not merely reflect the market forces but

¹²⁵Ibid.

¹²⁶Wesley N. Redfield, "A Dynamic Nodal Growth Model," in Proceedings of the Association of American Geographers, Vol. 5 (1973), p. 233.

also the spatial, sociological and institutional aspects. Thus the second order growth poles should be made responsible for organizing and regulating the regional market mechanism in such a way that the influence of the market forces is minimized and the means of production necessary for socio-economic transformation are created and fostered. I believe that depressing the non-essential consumption in the regions at the initial stage would provide the resources for meeting the more urgent demands necessary for sustained socio-economic growth and development. Thus heavy investment in production means, raw materials and labor will have to be given priority in the implementation of a growth pole strategy of development.

The economic role of second order growth poles in their respective territorial sphere of influence should be based on the power of selecting the sectors and geographical location in which investments are to be made. It is suggested here that these centers should be given the power to allocate investments in the third order centers on the basis of their socio-economic needs, resources and potentialities. In essence, the position of the third order urban centers within a region will have to be one of dependency on the second order centers. In the case of the relationship between the first order and second order growth poles, the role of the first order pole is particularly crucial at the initial stage. It must devote a substantial amount of financial, technical and administrative resources to enable the second order growth poles establish the necessary industrial and institutional organizations that will enable them to become more or less self-propulsive within the shortest time possible. In this regard, the natural growth process of the poles should be sustained by a well defined policy of activities and enterprises that have a high degree of relationship with the natural and human resources of each polarized region. Pushing industrial activities and projects whose social and

economic relevance and usefulness is doubtful is not only a waste of the scarce capital resources of the region but also prone to create a bottleneck in the whole developmental process.

Thus, it is possible to identify two phases in the suggested implementation of the growth pole model of development in Ethiopia and hence other similar less developed countries. The first phase should involve the creation of the geographical and socio-economic complexes strong enough to be self-generating and self perpetuating. Building the institutional foundation for the operation of the growth pole model is a crucial and indispensable aspect of this phase of development and change. The second phase will involve the integration of each of the isolated growth poles at the second order level to the national system of poles thereby fostering a high level of complementarity and dynamic interaction. In this way, the basic objective and goal of creating a complete national spatial system whose parts are highly interdependent, integrated and dynamic will be realized.

CHAPTER VI

CONCLUSION

The spatial organization of any society is one of the most complex and powerful forces that influences national, regional and local socio-economic and political development. A loosely organized spatial order and a stagnating economic system are not likely to produce a dynamic, independent and viable socio-economic and political entity. One of the basic problems that faces the less developed countries of the world today is the lack of a comprehensive policy of development in which both the spatial and economic aspects of development and change are clearly articulated. The growth pole theory that has been the basis of this paper is an attempt to abstract a conceptual framework by which less developed countries could organize their socio-economic activities in a geographic and economic space that will facilitate a sustained amount of growth over a long time. The use of geographic and economic space in the most socially, economically, politically and environmentally rewarding manner is the key to national public welfare and security.

This paper examined the relevance and usefulness of the growth pole concept to the socio-economic transformation of less developed countries in a generalized and qualitative manner. The conceptual growth pole model suggested in the paper proposes the creation of regional centers of development with the appropriate institutional organizations. The principal components of the model - urbanization, transportation, institutional and time - are basic to the formulation of a development policy and framework that will take into account the physical, social, and economic dimensions of growth and development. The various examples cited about the strengths and weaknesses

of the growth pole strategy in the practical implementation of the concept suggest that the success of the strategy depends upon the totality of the action. The economic mechanisms that have been emphasized by several proponents of the concept cannot be disassociated from the physical, social, cultural and institutional components. The examples cited demonstrated that the problem of growth poles cannot be reduced to solely economic dimensions and treated as a problem concerning the effectiveness of the national investment policy. The process of polarization depends upon different variables that must be involved in the conceptualization of the strategy.

The growth pole strategy was proposed for Ethiopia to demonstrate the usefulness and relevance of the concept in formulating a generalized model by which structural changes and transformations would be successfully undertaken both at the regional and national levels. The seven regional development units hypothesized in the model form the basic structural frameworks that would facilitate the emergence of an improved spatial and institutional pattern of development by mobilizing the internal productive forces and coordinating them with the external forces. The growth poles selected at various levels of the urban hierarchy are envisioned as strong centers of economic and socio-political organization whose information exchange capacities and higher innovation potentials will integrate the contiguous areas into one spatial system. The role of the second order growth pole is viewed as particularly crucial in establishing the administrative, economic and social control of the region through the flow of information and mobilization of the productive forces and social relationships.

I believe that the thesis has demonstrated that the growth pole concept provides a sound and relevant framework of regional development provided that it is conceived and implemented comprehensively and totally.

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THE GROWTH POLE THEORY IN REGIONAL DEVELOPMENT:
A GENERAL MODEL FOR LESS DEVELOPED AREAS

by

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B. A., Haile Selassie I University, 1969

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Geography

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1974

One of the fundamental problems facing the less developed countries of the world today is the inequitable distribution of social, economic and political welfare over their geographical territories. Generally, their spatial and economic organizational structure follows a colonial model with a center-periphery relationship in which a single metropolis dominates the vast rural periphery. The core, as a center of decision making, industrial and commercial agglomeration, educational and cultural establishments maintains a superior socio-economic and political position within a stagnating periphery. In order to overcome such a structural deficiency and establish an effectively integrated spatial system in which the core and periphery develop into a complementary and self-generating entity, it is essential to change the present one-sided and exploitative spatial and economic structural organization.

The growth pole theory, which forms the object of this study, advocates the creation of a system of regional and sub-regional growth and development points over the national geographic space in order to effect a structural transformation of the entire socio-economic and political system.

The theoretical and practical framework of the growth pole concept is examined as it has been elaborated by various authorities since its origination. On the basis of this framework, an attempt was made to build a conceptual growth pole model that is both relevant and useful to initiate and accelerate the pace of structural transformation in less developed areas. The major components included urbanization, transportation, institutional and time factors that are considered crucial in the development of any area. Focus is on the spatial dimension of the model since the basic theory of

growth poles and its objectives are aimed at creating a more equitable distribution of socio-economic and political development over a national territory.

In order to demonstrate the basic idea of the concept from a more practical point of view, the regionalization and urban hierarchical phenomena that are inherent in the growth pole concept have been discussed, taking Ethiopia as an example. It is with the firm belief that the concept of creating regional growth poles in Ethiopia will bring about significant changes in the socio-economic development and political integration that the proposal has been made. In a poorly linked and relatively large political unit such as Ethiopia, the concentration of political, social, economic and cultural power and development in a primate city negatively influences the total process of national development. The seven regional units suggested in the proposed regionalization model are here viewed as viable entities to undertake the task of development.

The regional development policy advocated by the paper is conceived as a sound public policy for the rational distribution of development programs over the geographic space of any less developed country. The paper points out that both the theoretical framework and practical aspects of the concept could be useful as a strategy of development when conceived comprehensively and totally. Besides, the paper can serve as a basis for a more refined and empirically valid quantitative and qualitative analysis.