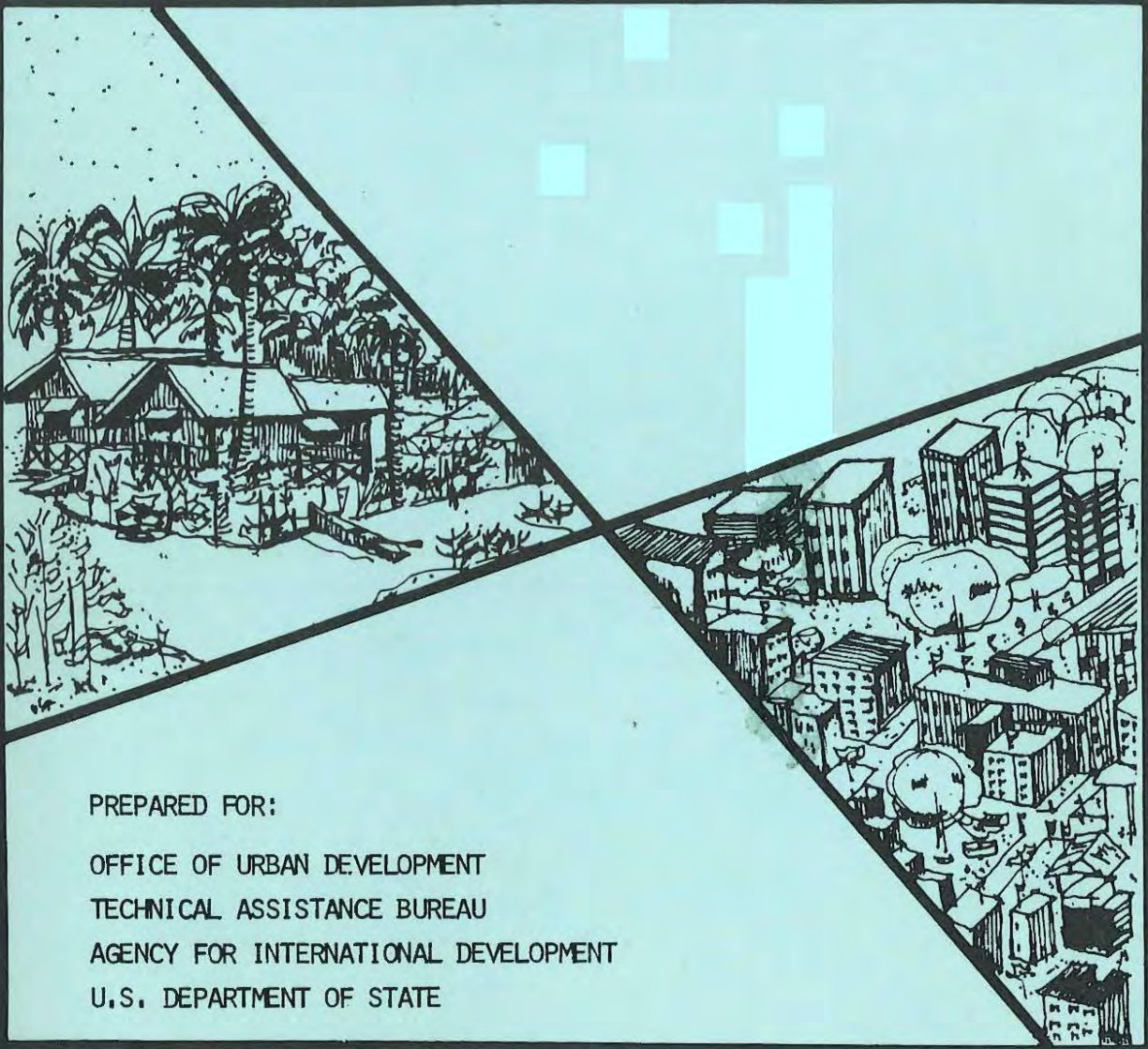


# URBAN FUNCTIONS IN RURAL DEVELOPMENT:

AN ANALYSIS OF INTEGRATED SPATIAL DEVELOPMENT POLICY



PREPARED FOR:

OFFICE OF URBAN DEVELOPMENT

TECHNICAL ASSISTANCE BUREAU

AGENCY FOR INTERNATIONAL DEVELOPMENT

U.S. DEPARTMENT OF STATE

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BY

DENNIS A. RONDINELLI

AND

KENNETH RUDDLE

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DENNIS A. RONDINELLI is Director of the Urban and Regional Planning Program at The Maxwell School of Citizenship and Public Affairs, Syracuse University, Syracuse, New York.

KENNETH RIDDLE is Research Associate at the Technology and Development Institute, The East-West Center, Honolulu, Hawaii.

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## CHAPTER ONE

### SPATIAL PLANNING AND DEVELOPMENT POLICY: DIMENSIONS OF THE PROBLEM

Changes in institutional and national policies are often made, not with a clear understanding of the problems to be solved or of the results to be achieved, but from a curious blend of ignorance and knowledge, uncertainty and hope, myopia and vision, doubt and determination. Most policies are experiments. They generally emerge from dissatisfaction with a course of events or with results of previous policies, from the clash of ideas and interests espoused by groups suffering hardships under existing conditions or anticipating greater benefits from change. Policies are authoritative expressions of demands and aspirations. But policy-making is an incremental, groping process of trial and error, and no matter how sophisticated the analysis or intense the deliberation, consequences of policies can never be predicted with certainty. Indeed, most complex problems escape deliberate solution. But policies, nevertheless, are made. The ignorance, uncertainty, myopia and doubt are either resolved during implementation or the policies are displaced in the next surge of dissatisfaction and hope.

Such is the case with changes in policies made over the past decade by governments and international assistance agencies promoting economic growth in developing nations. Dissatisfaction with the results of previous efforts to accelerate development in Asia, Africa, and Latin America blended with the hope that new strategies might narrow the widening gap between the richest and poorest nations and between a small wealthy elite and a mass rural population subsisting in poverty. The failure of the First Development Decade of the 1960s to make acceptable progress toward economic growth and social transformation profoundly influenced policy changes in the 1970s.

The First Development Decade sought to ameliorate the most intransigent problems plaguing the world's poverty-stricken areas. The mid-1960s

saw renewed efforts to expand industrial investment, accelerate modernization and increase food production. But few nations attained projected levels of growth or reached targets set by their own development policies. The United Nations reports that, by 1969, of the nearly 90 nations that had formulated national development plans at the beginning of the decade, less than one-third achieved average rates of increase in total national production equal to or higher than planned targets. In many countries the rate of economic growth actually declined and in others expansion of economic output failed to keep pace with population growth. Savings in most developing nations remained well below those of economically advanced countries; in most surveyed by the United Nations, a smaller proportion of government savings was recorded in 1968 than in 1962.<sup>1</sup> Nearly a third reported declining rates of investment, and by the end of the decade average investment rates were no higher than at the beginning. Indeed, developing countries faced a variety of serious problems: income gaps between rich and poor widened, population grew significantly faster than in industrial nations, and import demand increased beyond export earnings. Serious balance of payments problems further reduced the ability of many developing nations to raise the capital needed for investment in production and social services. Foreign capital flows were sluggish, compounding debt servicing problems.<sup>2</sup> Even in countries that did grow, expansion of gross national product was largely attributable to petroleum or mineral exports, revenues from which rarely benefitted lower income groups.

Social indicators paint an even gloomier picture. Economically lagging nations experienced periods of severe political instability, only marginally expanding their low levels of administrative capacity. Social problems became more complex during the late 1960s and early 1970s, exerting even greater pressure on inadequate political and administrative systems. Food production kept pace with local demand in less than 25 percent of the developing countries, and famine plagued large parts of eastern and central Africa and the Indian subcontinent.

Almost everywhere the agricultural sector performed poorly, despite the transfer and adaptation of new technologies, leaving few countries with increased food supplies. A third of the countries in Asia, half of those in the Western hemisphere and over two-thirds in Africa had rates of population growth greater than those of food production. According to the United Nations, in less than 30 percent of the 57 countries with reliable statistics did protein supplies equal recommended minimum requirements, and almost half had literacy rates below 30 percent. Unemployment, the International Labour Office contends, became chronic and intractable. In most of the countries surveyed by the United Nations, ". . . the industrial sector was neither large enough nor sufficiently labour intensive to absorb the share of the increment of the working age population made necessary by the slow growth of agriculture."<sup>3</sup> Ratios of physicians and hospital beds per person dropped in a third of the developing world, as did social welfare levels generally. The inequalities and adversities were seen most vividly in rural areas and on the fringes of urban communities.

Reacting to the slow progress or outright failure of previous strategies, international assistance agencies, in the late 1960s, began searching for new ways to accelerate development. The goal of development plans and aid programs shifted from rapid industrialization to economic growth with social equity. The new concern was with spreading the benefits of development to larger numbers of people, especially those in absolute poverty.

Since most who survive at or near subsistence levels--a term masking a bewildering array of local economic systems--live in rural areas or on urban fringes, the spatial focus of development policy also shifted. The new goals are to increase rural incomes, provide employment opportunities for the poor, increase agricultural productivity, and improve living standards by extending services and facilities to the places where the poor live.

The shift in emphasis was reinforced by a variety of changing social, political and economic conditions. By the early 1970s industrial and agricultural economies became more interdependent in a global economy and underdeveloped nations were no longer content to play a subservient role in trade relationships; within developing nations leaders could no longer easily maintain stability with the support of only a small urban elite; disparities in regional, social and economic progress created tensions that tore at the fabric of national unity; uncontrolled population increases in rural areas wiped out small gains in urban industrial productivity; and environmental and ecological constraints limited continued concentration of investment in a few primate cities.

Nevertheless, cities remain the only enclaves of modernization and progress in most developing nations, and they will continue to provide opportunities for economic and social advancement and the trappings of a better life. Thus, development theorists and practitioners turned to policies that, if they do not promote widespread urban growth, at least extend urban services, facilities and amenities to more isolated and disadvantaged rural areas. But most importantly, the new development policy would shift investments away from primate cities to smaller urban places and rural hinterlands, without undermining existing metropolitan centers, seeking to create a spatial system that can generate and sustain more balanced development. But the fundamental issue implicit in the new development policy remains unresolved: how to reallocate resources to create an articulated network of development centers, integrated into a national system of production and exchange, that provides access to economic and social opportunities for a majority of the population.

#### THE SEARCH FOR ALTERNATIVE STRATEGIES

Both developing nations and aid agencies now express strong discontent with theories presuming that development can be accelerated by concen-

trating investments in primate cities, or that rural poverty can be ameliorated by the "trickle down" of benefits from urban industrial growth. The new development strategies focus on more equitable distribution of wealth rather than on merely increasing gross national product. Many developing nations have adopted the growth with equity goals, but neither they nor assistance organizations have successfully implemented them. Indeed, the new policies were formulated with neither a clear conception of the problem nor a thorough understanding of its magnitude and complexity, without detailed procedures for making strategy operational or the commitment of those whose support would make it successful. The scope of the new directions in development policy, the complexity of the problem and the variety of attempts to cope with it, can best be described through specific illustrations drawn from selected plans of developing nations, ranging in diversity from Nepal to Brazil, and from the policies of major international assistance agencies.

#### Spatial Planning in Developing Countries

Nepal and Brazil are, in a sense, at opposite ends of the development spectrum. Yet, each reflects the increasingly complex social, economic and spatial problems facing most developing countries.

With a per capita gross domestic product of less than 70 dollars, Nepal is one of the world's poorest countries. The land-locked, mountainous kingdom--plagued with poor soils, severe environmental damage, and vast amounts of inaccessible terrain--survives on subsistence agricultural economies that account for more than 65 percent of national income and absorb 90 percent of the labor force. More than three-fourths of Nepal's 12 million people are illiterate, nearly 40 percent of its population is less than 15 years old, and life expectancy is less than 35 years. Only about 3 percent of its widely scattered population is urbanized.

During the late 1960s and early 1970s the economic growth rate hovered at a nearly stagnant 2.5 percent a year. Nonagricultural sectors of the economy, composed almost entirely of crafts, cottage and small-scale processing industries, failed to develop, in part, because of inadequate infrastructure, poor communications and limited markets. Those people not engaged in agriculture or in seminal industries work in administrative and service jobs in the national capital, and each year many unemployed Nepalis migrate to India in search of work as farm laborers or to join other migrants in already overcrowded Indian cities.

Nepal, like other traditional economies, must devote much of its internal resources and external assistance to building basic productive capacity or maintaining existing capacity at subsistence levels. Natural resources are marginal, and much of the potentially productive land remains unexploited. Lack of an agricultural surplus prevents the accumulation of investment capital, and exports are limited. Traditional technologies and customs pass unchanged among generations. Agriculture absorbs the work of the entire family, with draft animals supplementing manual labor. The ability of the government to collect taxes is limited and mass communications are only slowly reaching beyond the capital city.

Because of its low productive and administrative capacity, change in Nepal is slow and its effects marginal, emanating almost entirely from external sources, through foreign technical advisors, a small cadre of Nepalis educated abroad, and trade contacts with India. Change rarely occurs without the support of the King and his closest advisors or without the blessing of traditional elites holding positions of political and administrative authority. Dependent on foreign aid for more than 60 percent of its development expenditures, even external assistance has limited impact, since the country's absorptive capacity reflected in the lack of trained manpower, poor physical infrastructure and inadequate administrative capability, is minimal.<sup>4</sup>



Brazil, in contrast, is a dynamic and rapidly growing country where the pace of economic progress, accelerated in the mid-1960s, has been sustained for a decade. Between 1966 and 1969 expansion of infrastructure averaged over 9 percent a year, as did the growth of mining and processing industries. Construction grew at 11 percent and services by nearly 8 percent annually. Until the early 1970s national growth rates consistently averaged more than 9 percent a year. Even more impressive is performance in the external sector, with increases of nearly 40 percent in exports and 30 percent in imports. Nearly every major component of the national economy--agriculture, manufacturing, construction, basic services, commerce and finance--has grown at substantial rates.<sup>5</sup> As with other countries in transition from "underdeveloped" to modern, Brazil has created the capacity to sustain economic growth by expanding and maintaining a complex and diversified production system. Expanding industrial output of the modern metropolitan areas of São Paulo and Rio de Janeiro provides Brazilian society with higher incomes in urban areas, steadily increasing investment opportunities, diversification and expansion of social and economic activities, and new institutions to organize and coordinate productive and social functions.

But despite their vast differences, Nepal and Brazil share a fundamental problem: both countries face overwhelming obstacles to planning and controlling the spatial pattern of growth. Both of their national plans call for development that promotes social equity, expands employment, increases agricultural production, reduces regional income disparities and provides educational, health and social services to all segments of the population. Both give high priority to integrating diverse regions and experimenting with development schemes designed to link urban and rural places. Both, in short, are searching for ways to generate and spread social and economic progress throughout the country through a system of integrated spatial development.

The problems of Nepal and Brazil are vastly different, as are their

basic development strategies. The spatial problem in Brazil arises from intensive investment in the modern, sprawling south-central metropolitan regions around São Paulo, Rio de Janeiro and Belo Horizonte, while the vast Northeastern and Amazon regions rival rural Nepal in isolation and poverty. Brazilians, comparing their economic center with the country's other regions, refer to São Paulo as an "engine pulling twelve empty boxcars." Social and economic disparities create an underlying tension that sporadically erupts into serious political problems.

Brazil's first national development plan, for 1972-74, not only recognized the adversities of growth concentrated in a single metropolis but proposed a massive strategy for spreading development to lagging regions. A primary component of the plan was "implementation of a regional strategy aimed at bringing about national integration." The Government sought to create "one of the largest regional development programs in the world," by transferring nearly \$800 million in federal funds to the Northeast and Amazonia. Brazil's allocation for regional development exceeds the total net financial assistance provided to all of Latin America by international financial institutions at the end of the 1960s.<sup>6</sup> Although noting the strategic benefits to national development of industrialization and urban modernization, the plan also describes the constraints of highly concentrated growth: "By virtue of the income level already achieved, the Center-South region will face in the seventies the typical problems of modern society," the plan declares, "explosive growth of urban agglomerates, such as 'Grande São Paulo' and 'Grande Rio' having each a population already in the order of 8 million people, which is comparable to that of the largest human concentrations in developed areas; pollution already critical in innumerable urban centers; technological revolution, with its effects on economic and social activity. . . ." <sup>7</sup>

The multi-faceted strategy proposed in Brazil includes constructing a network of roads and trans-continental highways, promoting industrial

investment in smaller cities and towns, establishing land reform, agricultural assistance, and rural development programs, extending education, health and social services to rural areas, and selecting regional growth poles for intensive public and private investment.

The problem in Nepal, is not so much one of de-concentrating growth as of creating a spatially integrated system that promotes development. The country's fourth national development plan, for 1970-75, sought to maximize production in agriculture and small-scale industries, build physical infrastructure, and expand the numbers of skilled laborers and trained administrators. At the same time, the government is concerned with generating development that "strikes at the very root of poverty," that creates a society in which all share in the benefits of growth and which is dedicated to "broadening the base of social justice." Nepali planners see more balanced spatial development as the key to achieving those objectives. "Any development strategy for stimulating growth should take full cognizance of the spatial dimension," they declare. "Development is highly competitive in its location policies and calls for a conscious regional strategy that promotes redistribution of resources while maximizing economic growth and national welfare."<sup>8</sup> Thus, national development policy, set in a regional framework, attempts to disaggregate national plans and sectoral investment programs and to integrate development activities at the local level. Nepal uses regional planning as a link between micro-analysis of local needs and macro-analysis of national development requirements.

Nepal's development policy also addresses regional disparities in land productivity, natural resource endowments, industrial growth, transportation facilities and social services, by formulating individual strategies for rural regions and the primate city of Kathmandu. The spatial framework is used to allocate investments and resources and to locate development projects. Project location is given particular emphasis, for ". . . the elimination of imbalances between various

projects depends largely on the scheduling and implementation of independent projects within a geographical location." The plan explains that the "lack of locational considerations in coordinating sectoral activities in Nepal's past planning efforts is exemplified by the numerous instances of overcapacity and underutilization of projects, e.g., overburdened canals, underused hydropower, roads with minimum vehicular traffic, and intensive projects without a road link."<sup>9</sup> Regional planning identifies complementarities among projects and geographically coordinates sectoral programs. Spatial considerations pervade development plans and policies in these two countries and provide a context for achieving social and economic objectives.

#### A Problem Shared

Other developing nations, between Nepal and Brazil on the spectrum of economic and social progress, face essentially the same problems. Development plans of the Philippines, Thailand, El Salvador and Kenya, to cite just a few, offer similar objectives and strategies. The development policy of the Philippines argues that "no longer is maximum economic growth the singular apex of goals . . . equally desired are maximum employment, promotion of social development and more equitable distribution of income and wealth." Rural modernization receives priority equal to urban industrialization. These objectives for development in the 1980s are expressed in specific sectoral targets and translated into spatial strategies. "In view of the glaring growth imbalances among regions, more emphasis will be given to regional development and industrialization," the national plan for 1974-77 proclaims. "Thus in addition to the correction of policies which artificially favor a few select areas, the integrated approach to regional development will be utilized."<sup>10</sup> Physical, economic, social, administrative and financial aspects of development are combined into common plans for specific regions and communities. Thailand's Third Economic and Social Development Plan, for 1971-76, expresses a similar desire to balance development, restructure the economic system to

reduce income inequalities, promote social justice, develop human resources and create rural employment. High priority is given to developing disadvantaged and economically lagging regions, linking them to Bangkok, diversifying their economic bases by inducing agricultural and mineral processing industries to locate in outlying areas, and strengthening interregional trade. The strategy also seeks to integrate rural and urban development within each region by coordinating agricultural and industrial production, synchronizing location decisions, concentrating public investments in smaller towns and cities, and investing in rural infrastructure, housing, educational and social services.<sup>11</sup>

The Economic and Social Development Plan of El Salvador explicitly addresses the need to increase rural income, create new employment and provide social mobility for rural people, largely by expanding agricultural productivity. Spatial development is considered an essential component of overall national strategy; the goal being to reduce overcrowding in metropolitan San Salvador and to disperse population, community services and productive activities to other urban centers. The plan calls for gradual improvements in intercity transportation systems, sanitation and utility services in rural communities, and administrative capabilities in small municipalities.<sup>12</sup> Spatially balanced development is also the principal objective of Kenya's policy. "The Government believes that balanced economic development can be achieved," the Kenyan plan argues, "that the necessary growth of employment opportunities can be generated and that the people as a whole can participate in the development process."<sup>13</sup> The government proposes to create a system of urban and rural development centers, selecting cities and towns for intensive growth, creating a network of smaller towns and villages as rural service centers, and establishing among them road, rail, air, energy and communication networks.

Emerging Trends in Assistance Policy

Among international assistance agencies, integrated urban-rural development is increasingly seen as a way of ameliorating some of the most intransigent problems of global concern. Both development theorists and aid officials have called attention in the past few years to the crucial role of spatial planning in increasing food production, relieving energy scarcities, and promoting employment and social welfare. The Pearson Commission, for example, clearly recognized that "planning strategy in developing countries must emphasize the growth of small and intermediate regional centers, to offer market, service and storage facilities, and light labor-intensive industries processing local materials. The construction of such new centers could offer a considerable measure of employment for unskilled labor."<sup>14</sup>

In a series of Ford Foundation seminars on employment problems, government officials and development scholars emphasized the need for more balanced spatial development: "This shift in development strategy seems to be central to the widespread creation of employment opportunities and to more effective use of the limited capital available in developing countries," their report contended. "The problem, however, is not simply one of generating activity in rural areas but rather of balancing development between rural and urban sectors. The two sectors are intimately related in their economic activities and any diversion of international efforts to rural areas will require careful reassessment of urban priorities."<sup>15</sup>

Development theorists and officials of developing countries reached these conclusions at the same time that international agencies were seeking new directions in development policy. After an intensive review of assistance programs, Owen and Shaw urged a redirection of strategy toward integrated spatial development. "A national economy requires the organization of space, the concentration of development activities in urban centers of the different sized spatial units, a

system of infrastructure within and between spaces, and the integration of agricultural and industrial development," they argued. "Each level of urban center would contain the activities appropriate to its size. This would overcome the current gross imbalance between investment in the large cities and the rest of the country."<sup>16</sup>

Since the late 1960s the World Bank, USAID, the United Nations Development Programme, regional development banks and other bilateral aid programs have all struggled with the complex problem of accelerating development with limited financial resources. To implement its mandate to concentrate on those sectors with the greatest impact on the rural and urban poor--agriculture, nutrition, population, health, education, and human resources--and on selected development problems such as transportation, urban and regional planning and technology transfer, the U.S. Agency for International Development, for instance, has fashioned a strategy that seeks to strengthen local institutions, involve the poor in program planning, increase and diversify agricultural production and integrate agricultural, industrial and commercial projects. The spatial dimension of USAID's rural development policy has become increasingly important. "One method of stimulating rural development and slowing urban-rural migration is the creation of market areas and market towns complete with services and amenities designed to make rural life productive and satisfying," USAID policy documents explain. But they readily admit that:

This is a new field for A.I.D. as well as for most developing countries and other foreign aid agencies. Programs are needed to assure the location in market towns and cities of certain activities which are needed to involve farmers in a high-productivity agricultural system, such as private banks and/or financial cooperatives, agricultural extension, warehouses, and market and transport facilities. In addition, it is necessary to integrate agricultural, industrial and commercial development including agro-industries, and to encourage the presence of a variety of consumer goods, personal service and construction businesses to provide the goods and services people need and want as their incomes rise. Finally, these market towns and small cities need utilities, schools and medical clinics.<sup>17</sup>

World Bank policies attempt to integrate functionally a wide variety of services, institutions and technical inputs needed to increase agricultural productivity in selected rural regions. The Bank will combine in integrated projects those extension, marketing, credit and agro-industrial services needed for increased agricultural production; infrastructure such as feeder roads, communication networks and small power plants that promote labor-intensive industries; and education, family planning and other health services to meet the social needs of the rural poor.<sup>18</sup>

#### THE EMERGING ROLE OF SPATIAL PLANNING IN DEVELOPMENT STRATEGY

As governments of developing nations begin to realize the crucial role of spatial planning in resource allocation, they are also confronted with the enormous complexity of implementing the new development strategies. Theories and principles of spatial planning are often elusive, abstract and inconclusive. As in other fields of development administration, many prescriptions for spatial planning are derived from the experience of modern industrial nations. Some prescriptions are simply not transferable and others must be carefully adapted to unique local needs and constraints. As with other development activities, spatial planning has also been the subject of fads and short-lived experiments. Growth pole strategy, for instance, eagerly accepted a decade ago as a primary generator of accelerated spatial development, was tried and found wanting. National and regional development plans based on creation of growth poles are now either loudly repudiated or quietly revised in Latin America and Asia.<sup>19</sup> Indeed, dissatisfaction with traditional theories of spatial development, based on the Western concept of center-periphery relationships, has set in motion the search for alternative strategies.



### Traditional Spatial Development Models

Theorists, in the past, drew on Western experience as a model for generating growth in developing nations. They saw primate cities as "'beach heads', centres of modernization which act as catalysts for economic growth, the centres from which the benefits of modernization flow outwards to revitalize the stagnating agricultural sector."<sup>20</sup>

The belief that concentrated industrial investment in major urban centers creates a "ripple effect" of growth throughout a nation is reflected in the major models that have governed development thinking.<sup>21</sup>

Equilibrium Models, extensions of classical location theory, assumed that economic processes would guide a nation automatically toward optimal growth. Spatial inequalities would be corrected through the untrammelled flow of production factors; and, without government intervention, disparities between urban centers and rural peripheries would eventually even out as economic development spread "naturally" from the center to the hinterlands. Self-Reinforcing Center Models asserted that "disequilibrium is built into transitional societies from the start,"<sup>22</sup> and that the primate city acts as a self-reinforcing magnet of progress. Unlike the equilibrium model, this paradigm recognized that deviation-amplifying forces increase and solidify center-periphery differences and may, in fact, promote greater inequalities. Myrdal argued that during early stages of development, forces of circular and cumulative causation increase the gaps between central investment points and other areas. In a free economy, growth at favored locations elicits "backwash effects"--labor, capital, materials and entrepreneurial talent move from the periphery to the center--draining rural areas of resources. Development of peripheries can be permanently retarded unless spread effects exceed backwash effects.<sup>23</sup> Unbalanced Development Models also stressed natural polarization during initial stages of growth. Hirschman argued for massive investments in central locations, recognizing that such a policy would accentuate center-periphery differences. He contended, however, that after a certain point "trickle-down" or spread effects

would takeover, and through mutually reinforcing sets of backward and forward linkages growth impulses would spread slowly over the periphery, gradually extending benefits to poorer groups as the economy matured.<sup>24</sup>

But contrary to classical laissez-faire economics and growth pole theories, little sustained development occurred in the rural areas of most developing nations. Indeed, the failure can be attributed largely to the lack of adequate spatial structure for promoting and spreading development in developing nations. Western theories could not be applied because the spatial patterns of most developing countries are substantially different from those in North America and Europe. The overwhelming influence of primate cities in the Third World attracted important change-inducing activities to single locations, creating dual economies wherein a small island of modernization emerged from a sea of poverty. Impulses from the center do not trickle down to the periphery; but as Berry notes, "growth and stagnation polarize; the economic system remains unarticulated."<sup>25</sup>

It is not difficult to understand the spatial patterns of developing nations, and why one primate city or a few dominant centers continue to be the most desirable location for investment. Location decisions in most developing countries were tightly constrained. In some cases, colonial policy established developing nations as raw material exporters to serve industrial nations, which made an entrepot, usually a major port, the only efficient location for infrastructure and services. Elsewhere, political influences shaped the pattern of spatial development, the administrative capital became the center of social, economic and cultural activities and received highest priority for investment in public services and facilities. But regardless of initial pressures, once investment was concentrated in a single location, an inevitable and irreversible chain of events reinforced continued concentration. Lower transportation costs from proximity to complementary activities, economies of scale and agglomeration, and migration of society's most talented people to the city, created multiplier effects that provided

one place with a competitive advantage over all others, and attracted even larger numbers of rural people in search of economic opportunities. Resource scarcities, moreover, made creation of multiple centers difficult. The emphasis on foreign trade curtailed development of a domestic system of distribution and exchange, obviating the need for a geographically dispersed transportation system.

Advantages of initial concentration quickly increased the primate city's competitive advantages. Additional physical infrastructure, accumulation of administrative and political power, and a stronger economic base, made it a magnet for industry, services, social and cultural activities. Initial location decisions molded the spatial system, shaping and structuring " . . . human interaction in space--in the development of transport and communications networks, in the growth of urban and administrative systems, [and] in the territorial distribution of political authority."<sup>26</sup>

It was this skewed pattern of spatial development that constrained growth and inhibited its spread in developing nations. Johnson argues that the Third World lacks the very spatial system that provided the base for Western progress, where " . . . the varied hierarchy of central places has not only made possible an almost complete commercialization of agriculture but facilitated a wide spatial diffusion of light manufacturing, processing and service industries . . . [and provided] employment of a differentiated variety."<sup>27</sup> The dominance of the primate city and the absence of an articulated hierarchy of central places seriously obstructed balanced and widespread development in the Third World. Without accessible markets farmers lacked incentives to increase output, to modernize their technology, or to adapt products to consumer demand, contributing to rural unemployment and to what Johnson calls a "wanton dissipation of ability and talent." Without competitive markets only marginal amounts of produce are sold from near subsistence farms; and village traders easily exploit farmers who must sell their produce immediately after harvest at depressed prices. Consequently,

farm income is perpetually limited, as are saving and investment, constraining farmers from obtaining technical and other inputs needed to increase agricultural production. Without a national system of production and exchange, this vicious cycle of rural poverty cannot easily be broken.

#### Centralization Versus Decentralization

As spatial planning emerges as a central issue in development policy, it is likely to regenerate the long-standing debate regarding the most efficient spatial allocation of investment. Development theorists have argued for more than a quarter of a century over whether primate cities in emerging nations are "catalysts or cancers." One advocate of concentrated investment contends that primate cities are the most important centers of cultural change, especially in fields vital to economic development: education, business organization, public administration and technological innovation. He argues that "if economic development is associated with modernization, the mediation of new, 'more modern' forms of social action through the primate cities," is indispensable.<sup>28</sup>

Although primate cities inevitably play a dominant role in the progress of most developing nations, they also produce visible and severe adversities. They allegedly draw unskilled and uneducated migrants from the rural areas to live in over-crowded slums and squatter settlements. There, unemployed, without adequate housing, income, medical care or education and straining already over-extended urban social services and facilities, the migrants become burdens on society. Rural-urban migration breaks up families, destroys traditional cultural ties and adds to crime and deviance; over-crowding in the primate city leads to physical deterioration, traffic congestion, the spread of disease and the proliferation of slums. Growth of the primate city occurs at a rate so fast that most developing nations cannot cope with it. "What needs emphasis," one analysis notes, "is the fact that the

growth of the urban population in the underdeveloped world appears to be occurring at a much faster rate than the growth of urban population in their comparable period of European growth."<sup>29</sup> The costs of maintaining the metropolis absorb social resources and economic surpluses, thereby inhibiting growth in other areas of the country. The adversities of metropolitan growth on the spread of development in emerging nations generate political backlash. Many countries have enacted laws controlling or restricting the size of primate cities, and national development plans now give priority to projects and large-scale social programs located in intermediate size cities, provincial capitals and rural areas.

#### TOWARD A STRATEGY OF INTEGRATED URBAN-RURAL DEVELOPMENT

The principal means of attaining the goals of the new strategy, it was earlier suggested, is through integrated spatial development. Large cities, as the plans of Brazil and Nepal both recognize, play crucial roles in generating growth, change and modernization. Indeed, urban growth is a concomitant of development; for as Lampard notes, "specialization of functions makes inevitably for specialization of areas: it promotes a territorial division of labor between town and country and differentiates town from town." Urbanization, he contends, "is simply the concentration of differentiated but functionally integrated specialisms in rational locales. The modern city is a mode of social organization which furthers efficiency in economic activity."<sup>30</sup>

Despite the extensive criticism of Third World metropolises, negative attributes of urbanization in developing nations are often overstated. Rural to urban migration, one of the most frequently mentioned evils of city growth, is not in itself necessarily bad; in fact, it can be a positive indicator of healthy economic change. As agricultural production increases and becomes more efficient, greater surpluses can be produced with less labor. Excess agricultural workers then move to

towns and cities in search of other employment. And as an economy grows, the "push" from rural areas is supplemented by the "pull" of cities. Although migration may reflect dissatisfaction with life in agricultural areas, cities also draw the more ambitious and talented people to fill expanding opportunities. A certain amount of rural-urban migration is inevitable in a diversifying economy.

Nor is migration always the major cause of urban population growth in developing nations. "Thinking of sprawling and spreading districts of squatters in cities throughout the underdeveloped world, one automatically attributes the ballooning of these cities to a mass influx of people from the countryside," notes demographer Kingsley Davis. "[But] it is clear that close to half the growth in the urban population of the underdeveloped countries is due to overall population growth, not to migration."<sup>31</sup> Indeed, Davis notes that the proportion of total population of underdeveloped countries concentrated in cities is only one-third that of the developed countries. Although the rate of change in the urban proportion of underdeveloped countries almost doubled that of advanced nations between 1950 and 1970, the percentage gain in city populations over the two decades is only a little more than half that of modern societies. During the same period rural population growth in developing nations far exceeded the increase in urban population.

The problem is not, as some theorists contend, that less developed countries are over-urbanized. Rather, it can be argued that less developed countries are not urbanized enough, that problems arise not from the size of urban populations, or even the pace of city growth, but rather, from the spatial pattern of development. People and investments overly concentrated in a single primate city or metropolitan area limits development potential and constrains the spread of its benefits to rural areas. A pattern of spatial development is needed that de-concentrates urbanization, and promotes a system of cities and towns, integrating rural and urban functions to achieve a more balanced and mutually reinforcing system of development centers.

As Johnson argues "the underdeveloped countries cannot create tolerably satisfactory market economies without a spatially dispersed hierarchy of rural growth centers, market towns, small cities, and other central places that collectively can counterbalance the pull of their voracious metropolitan centers."<sup>32</sup>

Similarly, the pattern of migration rather than its volume burdens developing nations. Without a system of intermediate and small-size cities reasonably dispersed, rural migrants, have nowhere to flock but to the already over-crowded primate city. The inability of the primate city to absorb large numbers of unskilled labor creates many of the physical, social and economic problems associated with Third World capitals. The existence of a system of cities of various sizes would allow migrants to move progressively from smaller towns to intermediate cities, which might in fact permanently absorb a large proportion of rural migrants.

Development strategies proposed by nations as diverse as Nepal and Brazil seek such a balanced spatial system. A hierarchy of cities and towns functionally linked with agricultural production areas provides a decentralized network of development centers that can increase access of large segments of the population to economic, social and political opportunities as well as to urban services and facilities. Urban functions and services can thus complement the wide range of technical inputs required to commercialize agriculture and increase rural productivity.

#### Locating Urban Services and Facilities

Location of social and economic activities lies at the core of development strategy. Many studies confirm the close relationship between location of industry, commerce and public facilities, and the distribution and concentration of population. The pattern of population distribution--the spatial arrangement of human settlement--has a pervasive influence

on a nation's social, economic and political organization.<sup>33</sup> It defines to some degree the problems a society faces in attempting to guide the pace and direction of progress and largely determines the opportunities for and constraints on future development. The location of public services, physical facilities and productive activities impresses on developing nations a spatial structure that influences not only the rate and distribution of national growth, but the quality of life in local communities and individual access to opportunities.

The location of public services and facilities and private investment shapes development in a number of ways. Even within relatively small and homogeneous countries, regions differ in their suitability for, and attractiveness as, locations for investment, and thus in their ability to compete for national resources. Future locational advantages depend in part on past decisions--on the quantity and quality of facilities available for production, and on the existence of infrastructure and services that attract and support investment. Although suitable natural resources--land, water and mineral endowments--must be available, man-made characteristics are also crucial. The existence of a transport network, of rail, air, water and highway linkages, for instance, determines the cost of moving raw materials from supply sources to points of production and finished goods to distributors and final markets. Public investment in water supply, waste disposal and energy helps determine the productivity of the labor force and of economic enterprises. Social services can contribute to the quality of human resources and to general standards of living in a community.<sup>34</sup>

Location of investment affects not only the potential of individual communities for future development, but shapes a nation's entire spatial system. Locating services and facilities in central places of various sizes can have important impacts on the pattern of production and exchange; the concentration of economic and social activities in market towns, small cities, intermediate urban centers and metropolitan areas creates economies of scale and spillover benefits for surrounding



areas. Urban centers organize the economy of their hinterlands through supply, market and administrative systems, attract creative and innovative personalities, and draw entrepreneurs with values, attitudes and behavior patterns that create an environment favorable to further innovation.<sup>35</sup> Returns on previous investments provide a substantial portion of the capital available for future development, and this accumulated stock of assets not only creates comparative locational advantages for communities but also opportunities for future growth through "inducement effects." Investment in public infrastructure lowers production costs and attracts new economic activities, which in turn, increase pressure to extend social services and facilities, thus creating a continuing cycle of expansion and growth. Moreover, "complementary effects," from the proximate location of related economic activities and public facilities create new markets for raw materials and semi-finished goods and external economies for other producers. Through backward and forward linkages, opportunities for yet more investment leads to higher levels of development.

National development plans generally specify the location of individual projects, but only recently have governments and international assistance agencies become more directly concerned with spatial relationships among investments, and their combined impact on the rate and direction of development. In developing nations the proper location of services and facilities is particularly important, for with scarce resources, limited administrative capability, increasingly urgent needs to expand food production and manufacturing, projects must be assessed not only by their efficiency and feasibility, but also by their "multiplier effects."

Distribution of services and facilities is crucial not only for promoting economic growth, but also in creating social equity and in improving the quality of life. Disparities in economic and social well-being are often measured by the number and diversity of productive and social functions located within a community or region. The growing

gap between the richest and poorest groups in developing nations is largely attributable to inequitable access to productive activities and social services. In a recent policy paper on rural development, the World Bank argues that any strategy for dealing with poverty in the Third World, to be effective, must recognize that "the need for special intervention to raise rural production and income applies also to the provision of social and other services, such as health and education. . . . Compared with urban areas, rural areas have a smaller share of economic infrastructure services such as domestic water, electricity and waste disposal." And even in areas where services do exist, the Bank observes, "the poor often do not have access to them because organization is inadequate and the cost is high. A special effort is needed to provide appropriate social and economic infrastructure for the rural poor, and it is important to integrate these components into rural development projects."<sup>36</sup>

Beyond mere recognition of the importance of spatial structure, location of services and facilities, and the geographical distribution of investment, implementing an integrated urban-rural development strategy raises a number of complex issues. Although the goals of the new development policy are clearly stated in the policy papers of assistance agencies and in the plans of developing countries, well-defined strategies for implementation are more difficult to discern. Basic theoretical and operational problems, essential to executing the policies, remain unresolved.

This study, therefore, attempts to summarize and assess some of the knowledge found in the vast rural development literature, to derive lessons from past experience and to explore alternatives for integrating urban services and functions in rural development programs. One relatively small effort, obviously, cannot hope to be exhaustive or comprehensive; at best it can point the way toward what must be done continuously in policy analysis: assess experience with past programs, evaluate incremental steps in policy implementation and suggest changes

in programs and policies to reinforce successes and correct failures. Specifically, this study addresses three major issues: 1) how public and private investments in productive activities and social services and facilities influence the spatial development of emerging nations; 2) how that spatial pattern impinges on economic development and the quality of life in urban and rural areas; and 3) how urban functions, services and facilities can be located and used to support rural development in order to create an articulated, integrated spatial system, capable of sustaining growth and equitably distributing its benefits.

Chapter 2 reviews the strategies of international assistance agencies, specifically those of the U.S. Agency for International Development, the World Bank and the United Nations Development System. Each organization's policy is described and essential components are analyzed. Objectives, perceptions of the problem, operational propositions and major assumptions are identified and evaluated in terms of potential difficulties for implementation. Chapter 3 discusses the principal inputs needed to achieve integrated rural development, with a detailed discussion of national political and administrative requirements. Chapter 4 identifies and assesses technical inputs needed for integrated rural development and Chapter 5 explores program administration requirements and local organizational support. The roles of spatial structure and essential components of an integrated spatial hierarchy to induce development in emerging countries are outlined in Chapters 6 and 7. The last chapter offers an operational strategy for integrated urban and rural development, identifying and analyzing urban services and facilities needed to build a hierarchy of urban centers and to link them to rural hinterlands. The concept of transformational development provides the context for specific recommendations for implementing integrated development policy.

FOOTNOTES

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4. See Myron Weiner, "The Political Demography of Nepal," Asian Survey, Vol. 13 (June 1973), pp. 617-30.
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6. Federal Republic of Brazil, First National Development Plan 1972-1974, (Brasilia: Government of Brazil, 1971).
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11. See Phisit Pakkasem, "Industrialization Strategies and Growth Pole Approach to South Thailand Regional Planning," prepared for Seminar on Industrialization Strategies and the Growth Pole Approach to Regional Planning and Development, (Nagoya: United Nations Centre for Regional Development, 1975), mimeographed.
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28. Bert F. Hoselitz; "Urbanization and Economic Growth in Asia," Economic Development and Cultural Change, Vol. VI, No. 1 (October 1957), p. 43.
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33. See for instance, United Nations, ECAFE Secretariate, "Economic Causes and Implications of Urbanization in the Recent Experience of Countries in Asia and the Far East," in Philip Hauser (ed.) Urbanization in Asia and the Far East, (Calcutta: UNESCO, 1957), pp. 128-62; Gerald Breese (ed.) The City in Newly Developing Countries (Englewood Cliffs, N.J.: Prentice Hall, 1969); Leo Jacobson and Ved Prakash (eds.) Urbanization and National Development, Beverly Hills: Sage, 1971; Salah El Shakhs and Robert Obudho (eds.) Urbanization, National Development and Regional Planning in Africa, New York: Praeger, 1974; and Wayne A. Cornelius and Felicity Trueblood (eds.) Latin American Urban Research, Vol. IV, Beverly Hills: Sage, 1974.
34. See Dennis A. Rondinelli and Barclay G. Jones, "Decision Making, Managerial Capacity and Development: An Entrepreneurial Approach to Planning," African Administrative Studies, No. 13 (January 1973), pp. 105-18.
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## CHAPTER TWO

### INTERNATIONAL ASSISTANCE POLICY FOR INTEGRATED RURAL DEVELOPMENT

Discontent with existing conditions and the hope that new strategies can overcome past failures are two of the most compelling forces changing organizational policies. This combination is clearly visible in strategies emerging from the international assistance agencies' reassessment of their development activities in the late 1960s and early 1970s. Although current policies for alleviating rural poverty have common objectives, each agency views rural development from a somewhat different perspective and pursues a distinct course of action.

Three major approaches are described and analyzed in this chapter. Functional coordination strategy, adopted by the World Bank, seeks to increase the quality and number of facilities, services, technical inputs and institutions, that the Bank considers essential to expand agricultural productivity and raise rural income levels. Rural modernization strategy, pursued by the United Nations Development System, seeks to transform rural areas from traditional to more modern communities, increase food production, change human attitudes, and create a diversified economic base capable of promoting higher standards of living. Integrated development strategy employed by the U.S. Agency for International Development attempts to change the structure of developing nations by focusing aid on agriculture, nutrition, health, population control, education and human resources, sectors with the greatest impact on the "poor majority," and by creating a network of complementary urban and rural development centers necessary to increase national production and exchange.

## FUNCTIONAL COORDINATION STRATEGY

In 1975, the World Bank announced its intention of committing substantial resources to reducing rural poverty in the Third World. Emerging from an overall redirection of Bank activities, its rural development policy paper outlined major shifts in the sectoral pattern of investment, broader lending objectives and a "new style" of investment projects.<sup>1</sup> Expressing disappointment with previous approaches to development, IBRD President Robert McNamara, in his 1973 address to the Bank Group's Board of Governors, emphasized the magnitude and seriousness of world poverty, noting that "nearly 800 million individuals--40 percent out of a total of two billion--survive on income estimated at 30 cents a day and in conditions of malnutrition, illiteracy and squalor."<sup>2</sup>

The Bank began, in late 1973, to increase rapidly the proportion of its loans for agricultural and social projects and the amount of financial assistance given to its poorest members. This strategy sought not only to shift the pattern of investment, but also to increase lending for multi-purpose, integrated, low-cost, replicable projects designed to generate direct benefits for large numbers of rural poor, and to increase the productive capacity of small scale agriculture and industry.

### Policy Objectives

The World Bank estimates that nearly 85 percent or more than 750 million people in developing nations live in "relative poverty" and 40 percent earn per capita annual incomes equivalent to \$50 or less. The overwhelming majority of the rural poor are concentrated in Asia--principally India, Indonesia, Bangladesh and Pakistan--the Sahelian states of Africa, and are scattered throughout Central and South America. The Bank's rural development programs seek to reduce the number of poor people by increasing agricultural production, expanding employment, narrowing income gaps, and lessening regional inequalities in national investment



and productive capacity.

Assumptions and Perceptions of the Problem

Bank analysts attribute rural poverty mainly to low productivity in agriculture, but also to inadequate rural employment opportunities and lack of access to technology and services, all of which perpetuate low levels of income. The condition of the poor is not entirely accidental or beyond the control of the societies in which they live, for " . . . in many cases, vested interests operate to ensure not only that the benefits of productive activity are distributed inequitably, but that the poor are denied access to the inputs, services and organization which would allow them to increase their productivity."<sup>3</sup>

In the Bank's view, development strategies must alter the fundamental characteristics of rural societies that create and perpetuate poverty. Subsistence agriculture, and inadequate industry, commerce and services to absorb surplus labor, prevents the maximum use of available manpower and forces those seeking nonagricultural employment to migrate to urban areas, most of which are incapable of absorbing additional workers. Many of the impoverished, moreover, live in naturally hazardous and marginal zones, infertile areas subject to regular floods or droughts that are incapable of yielding large agricultural surpluses under existing conditions. The poor occupy small, fragmented, underproductive land holdings, unsuitable for commercial farming with modern techniques or are exploited as sharecroppers, working for low wages or a fraction of their agricultural production on insecure tenancies.<sup>4</sup> These problems are compounded by social and political structures that aggravate adversities and obstruct change. "The socioeconomic system operating in the rural areas," the Bank points out, "is often hostile to the objectives of rural development, serving to reinforce rural poverty and to frustrate the efforts of the poor to move up."<sup>5</sup>

World Bank strategy provides a conceptual framework for designing and implementing rural development projects, based on three major assumptions. First, analysts argue that the slow rate of transfer of rural people from low-productivity agriculture is unlikely to rise in the near future and that the modern sector in most developing nations cannot expand rapidly enough to absorb significant increases. Moreover, the plight of the poor will probably worsen if population growth continues to outpace increased economic production. Finally, the Bank contends that despite the severity of the problem, poverty can be reduced and the quality of rural life improved by mobilizing indigenous endowments of labor, capital and land, and by expanding resources, technology and institutional capacity.<sup>6</sup>

#### Operational Premises

The Bank's strategy rests on those assumptions and its past experience with rural development. The overriding precondition for successful implementation is a serious political commitment by national governments to improve rural living conditions. "Experience indicates that a strong commitment to rural development at the national policy level is necessary if the impact is to be effective and broad based," the Bank asserts. But, it also recognizes that "in many countries, the commitment is lacking."<sup>7</sup> In addition to expanding national support for rural development, the Bank sees the need for functionally coordinated programs and projects. The strategy assumes that it is possible to reach large numbers of the rural poor with low-cost projects that can earn acceptable economic returns. Credit, marketing services and cooperative organizations would be needed in combination with technologies "appropriate to the requirements of small farmers and based on adaptive national research." In addition, central analysis and control must be balanced with decentralized regional and project planning, project management integrated into government operating agencies and ministries, the rural poor involved in program planning and implementation and the training of local administrators, project managers, cooperative staff and

extension agents, must be increased. Complementary services and facilities, moreover, must be coordinated with technical inputs in order to raise agricultural production. New technologies require extension services, credit, managerial, technical and entrepreneurial skills, all of which may be found in latent form in villages, market towns and urban centers, and which must be developed to a higher level of productivity.<sup>8</sup>

#### Approaches to Implementation

Although the Bank's rural sector policy papers discuss the problems of rural development in fine detail, its proposals for strategy implementation are less conclusive. The Bank cites three possible approaches to dealing with problems of rural poverty. The "minimum package approach" tested in a number of countries in northern Africa and southeast Asia, coordinates in a single project the technical, administrative, financial, and institutional inputs, infrastructure and technology, required to raise agricultural production. Emphasis is placed on properly sequencing operations in relation to local needs and conditions, subject to government financial and staffing constraints. Credit, extension services, fertilizers, feeder roads and basic public facilities must be combined appropriately for local communities. Successful implementation depends on the ability of government to provide high quality technical inputs at low cost, on the ability of selected farmers to test innovations and demonstrate their effectiveness, and on creating productive land tenure systems and institutional credit.

The "comprehensive approach" attempts to improve the productivity of selected crops throughout a country or to deliver financial and technical assistance to selected regions where productivity of a range of commodities can be increased. In either case, functional inputs are coordinated by a special authority or government agency at the national level and emphasis is placed on creating community or cooperative organizations to deliver services. Finally, "sector or special

programs" provide single services, such as public works, health, education, or training to rural areas. Such programs may be nationwide in their coverage, and although not designed specifically to promote rural development, can provide individual components for more comprehensive projects.

Reluctant to prescribe a definitive strategy for rural development, the Bank argues that "no single package or formula is likely to be either necessary or sufficient for effective rural development. On the contrary, the activity mix most likely to work is the one that is tailored to fit a particular and probably unique, set of conditions and country circumstances."<sup>9</sup> It explicitly recognizes the spatial and locational implications of rural development planning, noting that "when rural development programs and projects incorporating a variety of objectives and activities are contemplated, including not only private agricultural and industrial activity, but also governmental infrastructure and social services, the locational aspects of the units of nonfarm activities require careful consideration."<sup>10</sup> But the need to integrate urban services and facilities within rural projects is only mentioned as one of the many problems confronting rural development planners. No substantive recommendations are made for spatial development, other than to observe that "as regional planning of rural areas spreads, it will have to be coordinated with urban regional planning. Increasing migration and changes in the geographical distribution of the poor and the unemployed add urgency to the need for a coordinated provision of public services in contiguous rural and urban settlements."<sup>11</sup>

#### RURAL MODERNIZATION STRATEGY

The United Nations lacks an overall, unified, strategy for rural development, and each of its Specialized Agencies, regional commissions and semi-autonomous research institutes is usually concerned with only a specialized aspect of development, viewing rural problems and their

solution from a particular functional or geographical perspective. Lacking a formal, coherent policy on rural development, UN strategy must be deduced from the activities of its agencies and commissions dealing with development problems in their own jurisdictions.

From these activities two trends are discernible that provide some insight into the strategies of United Nations organizations. The first focuses on providing increased financial and technical assistance to the world's least developed countries, those nations which have failed, during the past quarter century, to make significant gains in economic growth and social transformation. The 25 least developed countries share in common characteristics that keep a large proportion of their populations in dire poverty. Most are isolated, landlocked and possess few exploitable resources, and are characterized by "subsistence agricultural systems, a pervasive weakness of planning and administrative machinery, inadequate transport and communications infrastructure, acute shortages of trained manpower and meager social services."<sup>12</sup> Nearly all UN agencies are attempting to tailor programs for and increase allocations to these countries.

The second trend is the increasing emphasis given to the social aspects of financial and technical assistance. UN agencies are providing stronger support for integrated, multi-sectoral projects aimed at "the marginal people on society's fringe;" projects designed to develop infrastructure that organizes and coordinates agriculture, irrigation, nutrition, health, education services and facilities; activities to improve government programs for manpower development and employment; and agrarian reform programs of land redistribution and resettlement; agricultural technology adaptation, and commercialization of agriculture.<sup>13</sup>

#### Policy Objectives

Unlike the World Bank, UN agencies have not clearly defined potential beneficiaries of rural development programs other than as low income

farmers and peasants.<sup>14</sup> The objective of rural development is to transform rural regions from subsistence or low income agricultural areas to those engaged in commercial farming. The UN Economic Commission for Africa, which has established the most concise policy guidelines for integrated rural development, argues that an effective strategy should be viewed as "a set of policies and projects so designed and coordinated that it will raise and sustain the standard of living of the rural population as a whole. It implies modernization which would bring about increases in productive power and changes in human attitudes, replacing a sense of dependence on the natural environment with the desire and ability to influence the arrangements of that environment. It seeks to establish an economic base for the society which would generate progressively higher levels of output and living, and promote the emergence of a knowledge and attitudinal base which makes possible an automatic and continuing expansion of man's capacity to deal rationally with the environment."<sup>15</sup>

That rather sweeping objective is then reduced to more specific goals. Integrated rural development strategy should aim to transform rural regions into more modern agricultural production areas through four short term and two longer term objectives. The former include:

- 1) increasing per capita income for the economically active population--especially younger rural people who might easily migrate to urban centers without sufficient incentive to stay in agriculture--and through them, raise the income levels of the entire rural population;
- 2) ensuring minimum food supplies and their distribution in such a way as to cover basic nutritional requirements of rural people;
- 3) increasing the flow of foreign currency into rural production by expanding exports and reducing imports; and
- 4) stemming the flow of migration of under-employed, productive segments of society from rural to urban areas.

All of these activities would assist rural societies through a transitional phase requiring 5 to 15 years. Long term goals, spanning 20 to 30 years, are to generate self-sustained growth in rural economies by promoting a gradual transformation of the population from subsistence

peasants to commercial farmers, and reorienting and diversifying rural economies by expanding small and medium size industry and commercial activities.

#### Assumptions and Perceptions of the Problem

United Nations strategies rest on a number of assumptions concerning the nature of rural underdevelopment, attributing it mainly to low agricultural productivity, and to the persistence of traditional attitudes, mores and institutional structures. The problem continues to plague developing nations, in part, because few of them invest enough in agricultural modernization. The United Nations Economic Commission for Africa argues that although more than 80 percent of the population are agriculturalists, "a relatively small proportion of planned public expenditure is devoted to direct investment in agriculture. Few countries in Africa spend as much as one-third of their budget on agricultural investment, while the majority devote as little as one-fifth to it."<sup>16</sup> In addition, traditional land tenure systems perpetuate subsistence economies by maintaining farm plots too small to produce surpluses. Over much of the world low soil fertility and limited rainfall and water supplies, together with the lack of credit facilities, poor communications, inadequate infrastructure, energy and marketing facilities, and insufficient agricultural extension services contribute to persistent poverty.

United Nations strategies make four major assumptions about rural development problems: first, that increasing gaps in income from agricultural and nonagricultural sectors is, and will continue to be, a primary cause of urban-rural migration; second, that reducing those income gaps depends on promoting agricultural productivity, technological progress and industrial diversification and on modernizing rural social and economic structures; third, that modern production techniques will increase agricultural output sufficiently to keep pace with controlled population growth; and finally, that rural social and economic structures

can be modernized through coordinated investment in services, facilities, infrastructure and technology.

### Operational Premises

A strategy of rural modernization, the UN postulates, must deal directly with the major forces influencing rural life, with those geographic, economic, social, technological, institutional and political factors that constrain development and change.

Geographical and ecological factors preventing increased agricultural output include adverse climatic conditions, too much or too little water, poor soils, and the lack of other natural resources. Projects must develop unexploited natural resources or overcome resource deficiencies, and therefore include components such as irrigation systems, plant and animal disease control, flood control and land reclamation and resettlement. Economic factors that inhibit local capital accumulation and prevent appropriate distribution of financial resources to activities with high development potential can, to some extent, be overcome by investing in agriculture and rural commercial and industrial enterprises, and in social services such as health, education and population planning. Existing technologies must be surveyed and assessed. Most subsistence farming depends entirely on manual and animal power, sometimes aided by hand-made, simple, implements. Technology must be gradually transformed, but within the capabilities of the intended users, to achieve higher levels of output. 17  
Technology must be progressive and adaptive, nonspecialized and labor intensive in order to use the abundant labor supply found in rural areas. 18

UN strategies also call for analysis of sociological factors which impinge on rural communities and that determine the adaptability of new technologies and organizational arrangements. Development projects should consider demographic profiles and population characteristics of rural



regions, existing religious practices, beliefs, customs and attitudes toward tradition and change. Since the perspectives of rural people are usually quite distinct from those of Western assistance experts, those differences must be reflected in project planning and implementation. Modernization strategies must be based on an understanding of tradition. "In the African rural environment, where the peasant or the farmer produces primarily to meet the socioeconomic needs of the group, the basic principle of such an economy is humanism," the UN Economic Commission for Africa emphasizes. "In the various transactions it is not money that counts so much as the satisfaction of a social need."<sup>19</sup> Recognition of such basic human motivations is crucial for designing successful rural development programs.

Finally, political and institutional factors must be reckoned in project design, taking into consideration processes of interaction among central, provincial, and local governments in decision-making, resource allocation and program execution; the adequacy of administrative capacity at each level, the degree of local political awareness and participation and patterns of informal political influence.

Dealing more directly with operational requirements for rural development, the U.N. Economic Commission for Africa argues that a successful strategy depends on government acceptance of the philosophy and technology of planning. Because rural development is complex, involving a variety of components, it must be carefully and systematically planned, preferably on a regional basis within the framework of a national strategy. "Rural programmes thus conceived," UNECA contends, "might be regarded as a means of achieving rural-urban integration within the context of the national development process."<sup>20</sup>

#### Approaches to Implementation

United Nations documents are vague about implementing integrated rural development strategy. The U.N. Economic Commission for Africa merely

reviews existing approaches and suggests further studies. Recommendations include teaching farmers new methods of agricultural production through cooperatives and extension, and training in civic education and functional literacy agricultural education, community development, health, trade and business management, but fail to go beyond suggesting these specific activities.<sup>21</sup> The concept of integrated spatial development is implicit but not a central focus of proposed policies; UNECA notes that "rural development presupposes the recognition of a rural-urban continuum and the implication that the rural area cannot be considered in isolation but in relation to the urban counterpart, for it is in this sense that problem of rural-urban migration, rural exodus and agricultural and industrial development can be tackled."<sup>22</sup>

#### INTEGRATED DEVELOPMENT STRATEGY

Changing trends in international assistance policy are most clearly reflected in USAID's mandate to concentrate technical and financial aid on sectors having the greatest impact on the poorest groups in developing countries. The Foreign Assistance Act of 1973 changed USAID's direction and goals toward programs that establish a more collaborative style of assistance, by placing developing countries at the center of development efforts; concentrate on solutions of few key human problems, to which the United States could contribute significant technical competence and financial resources; emphasize innovative activities rather than relying on traditional approaches; focus on the growing problems of income redistribution and unemployment by designing and supporting projects aimed at benefiting the largest possible number of rural poor and integrate technical, capital and food assistance within development programs and projects.<sup>23</sup> USAID policy, like that of the United Nations and the World Bank, stresses the coordination of a variety of functional inputs for rural development, but both differs from and extends beyond those of the other two organizations.

USAID analysts recognize that although traditional elements of development, such as roads, irrigation, public works and rural electrification are necessary, alone they are not enough to increase agricultural productivity. Such investments usually benefit medium and large scale farmers--a segment of the rural population, already having relatively high incomes--and do not directly benefit the poor, the landless laborers, tenant workers, small farmers and rural unemployed. Programs that expand alternative employment opportunities are needed to reach this group. "Other elements in the strategy to enable the landless and near landless to contribute more to the output and share in the fruits of economic development," AID planners argue, "include human resource development programs in education, nutrition, health and family planning and programs to encourage small, dispersed labor-intensive rural industries."<sup>24</sup> Projects to increase food production must be complemented by programs to expand nonagricultural work opportunities.

AID strategies place strong emphasis on building institutional and administrative capacity at the local level. "There is a growing interest in local government and farmer cooperatives, especially in Latin America," AID analysts note in critically evaluating their own funding priorities. "In general, however, A.I.D. supported programs are still directed toward improving services provided by central governments. As project planning advances, A.I.D. will support stronger local institutions and greater participation, although the basic decisions on matters such as these can only be made by the countries themselves."<sup>25</sup> Priority is now given to strengthening local and regional institutions, improving the planning competence and financial resources of municipal governments, strengthening the resources and capabilities of municipal development banks to identify and fund local, small-scale, development ventures, and promoting agricultural, housing and credit cooperatives.

Finally, USAID strategy explicitly recognizes the need to integrate urban and rural functions within and to build the productive capacity

of spatial systems in Third World nations. AID policy analysts assert that a primary means of promoting rural development and of influencing the pattern of rural to urban migration is through "creation of market areas and market towns complete with services and amenities designed to make rural life productive and satisfying."<sup>26</sup> Rural development strategy recognizes the need to distribute investments in social services and facilities among population centers of different sizes, both to benefit from locational advantages and to spread more widely the benefits of development. Promoting the expansion of market towns, service centers and small and intermediate cities would provide a spatial structure for making urban services and facilities, needed to increase agricultural production, accessible to rural areas.

#### Policy Objectives

USAID's Working Group on the Rural Poor has designed a conceptual framework for achieving rural development which attempts to improve the economic and social conditions of small and subsistence farmers, unemployed and underemployed farm laborers, small craftsmen and entrepreneurs with marginal incomes. USAID admits the difficulties of precisely defining the "poor majority," and instead, established three major benchmarks of poverty: 1) per capita income below \$150 a year, in 1969 prices; 2) daily diet of less than 2,160-2,670 calories, depending on the country; and 3) several health indicators, including life expectancy at birth below 55 years, infant mortality of 33 per thousand children aged 0-1; and birthrates greater than 25 per thousand population.

Using these measures, the Agency calculates that over 800 million people live in poverty, 75 percent of whom are found in AID-assisted countries.<sup>27</sup> The general objective of USAID strategy is "to enhance the productivity, health and skills of the rural poor" by creating "a system which supports self-sustaining growth by promoting farm and non-farm productivity increases coupled with equitable distribution of

the benefits of that productivity."<sup>28</sup> More specifically, the Agency seeks to strengthen local institutions in order to involve the rural poor in development, increase and diversify agricultural production, integrate agricultural, industrial and commercial development so that advances in one sector spur others, improve nutrition, localize infrastructure so that the poor have access to roads, land, electricity, water and utilities, and increase employment and improve income distribution.<sup>29</sup>

#### Assumptions and Perceptions of the Problem

Strategy is based on a set of fundamental but largely untested assumptions concerning the causes of poverty, and the most effective means of ameliorating it. Underlying USAID policy is a belief that the dual goals of economic growth and social equity are not only consistent--a proposition denied by much of traditional economic theory--but that income redistribution, increased production and expanded employment are interdependent. The complexity of rural systems and the diversity of their problems demand an integrated approach to development. Social, cultural, economic, political and historical forces all combine to create and perpetuate current conditions and therefore "the interactions and dependencies of these complex elements make it highly unlikely that any single intervention such as increasing small farmer credit or introduction of a new technology will be effective in isolation." The Working Group on the Rural Poor argues that, ". . . the performance of the systems as a whole requires a rather large number of elements functioning effectively and within a supportive policy structure in order to produce significant advance."<sup>30</sup> Achieving the goals of higher food production per hectare, low cost production increases, expanded employment and more equitable income distribution requires focusing aid initially on small farmers, increasing their access to production inputs, technology, marketing and financial resources, and creating and sustaining a viable set of local institutions to generate and disseminate them. In addition, the strategy is based on

more specific assumptions concerning agricultural economics in developing nations: that 1) small producers who own their own farms or businesses can have relatively high marginal savings rates; 2) programs attempting to increase agricultural productivity will only succeed if farmers' incomes can be substantially increased and their risks reduced; 3) small market towns and cities can support a variety of rural industries efficiently; 4) financial institutions and intermediaries are needed both to provide credit and to mobilize rural savings; 5) farmers must be organized in order to exploit profitable production opportunities, and 6) a minimum package of services, facilities, appropriate technology and marketing and financial organizations must be provided to generate production increases.<sup>31</sup>

AID strategy recognizes that spatial development is crucial to establishing successful rural development programs. Creating linkages between rural areas and urban centers can extend services and facilities into rural areas and expand markets for agricultural products. Major economic linkages, Agency planners emphasize, are almost entirely through urban activities and institutions, making cities essential components of any strategy for developing rural regions. "The system of cities and towns in any country is a totality," the Working Group on the Rural Poor points out. "There are a number of linkages and interdependencies between the essentially rural based centers at the lower end of the urban hierarchy and the larger cities in the urban system which ought to flow in both directions, up and down the hierarchy."<sup>32</sup> But the critical problem in most developing nations is that almost all linkages needed to promote and sustain agricultural growth are downward, because the lower levels of the national spatial system are neither well-developed nor properly organized. USAID strategists argue that in most developing nations villages are too small to support the services needed for growth, that vertical linkages between farms, small towns and cities which could provide rural areas with needed services and facilities and link them to the national economy have been neglected in previous development strategies, and that linkages must be created between rural settlements

and urban centers if development policy is to succeed.<sup>33</sup>

### Operational Premises

USAID's modus operandi is outlined succinctly by the Working Group for the Rural Poor and provides a set of guidelines for designing specific programs and projects. To achieve the objectives of integrated development policy, investment in developing nations must be balanced more equitably between urban and rural areas and spatial factors must be taken into consideration in allocating resources for infrastructure construction and delivery of social and commercial services. Planning strategies should consciously seek to develop spatial components at the lower end of the hierarchy--market towns, service centers, and small and intermediate cities--in order to increase production and exchange between rural areas and urban places. Projects must emphasize increased food production and expanding domestic distribution and marketing, both to reduce agricultural imports and to limit the amount of food exported. Technologies introduced into rural areas should be carefully tested and appropriately adapted, and emphasis placed on small-scale social services and facilities in rural settlements, of a size suitable to local needs. Land improvements are required in most developing areas and are preferable to large-scale colonization and resettlement schemes. Finally, USAID contends that "bottom up" planning and local participation are essential to the success of rural development projects.<sup>34</sup>

The Working Group raises a number of other operational issues, but leaves them unsettled. Questions concerning the optimal allocation of resources and investments in rural areas, the appropriate mix of public and private activities in rural development projects, proper sequencing of development activities and the most effective organizational arrangements for implementing development programs, require intensive research.

### Approaches to Implementation

AID policy makers, like those of the World Bank and the United Nations, become less concise and less certain in their prescriptions for strategy implementation. But in many ways, the Agency explicitly recognizes that its framework must be adapted to local circumstances and thus provides a more detailed set of guidelines for strategy implementation than do the other organizations. The Working Group on the Rural Poor identifies a number of elements that must be included in an implementation plan for rural development.

The overall policy and planning framework should be based, the Group contends, on macroeconomic and sector analyses that determine systematically specific problems and needs within each developing country. Program and project planning, moreover, must be done regionally if strategy is to deal effectively with such issues as decentralization, proper location of rural settlements and infrastructure, and creation of linkages between rural areas and urban centers.

Agricultural production is seen as the "economic engine of rural development" in AID strategy, and successful implementation depends on improving agricultural technology, research and extension, seed multiplication processes, marketing, agricultural credit and other activities related to increased output and equitable distribution of benefits. Organizing accessible financial institutions that increase the flow of capital to and promote savings among rural people, is crucial as is the creation of stable marketing channels for distributing surplus agricultural products.

Building the institutional framework for rural development is essential to increasing the organizational and management skills necessary to transform subsistence into commercial agriculture. Institution building should create a set of self-sustaining organizations capable



of identifying and solving rural problems and of delivering agricultural inputs. Special emphasis is needed, the Working Group argues, on creating "base level organizations"--cooperative institutions designed by and for local groups to improve the efficiency and productivity of small-scale agricultural, commercial and industrial producers.

Greater opportunities for nonagricultural employment in rural areas, especially in industry related to agriculture must accompany increased agricultural production; jobs must be found for surplus workers and "linkage" industries established to process and distribute agricultural commodities and to provide "input" services, equipment and goods to farmers.

Finally, if rural development is to go beyond simply increasing farm output, attention must be directed at creating the physical infrastructure required to sustain viable rural communities. Human resource development programs, especially in population control, health, education, and manpower training can assist rural residents to cope with social changes that inevitably accompany transformation of economic structure.

AID policy analysts are frank in admitting that initial working documents do not provide specific approaches to strategy implementation, that they offer only guidelines for design. "The usefulness of these papers depends more upon their ability to initiate rethinking and discussion," the Working Group on the Rural Poor suggests, "than [on] their 'objective truth' or direct applicability in any given case."<sup>35</sup> Although AID has identified the major elements and critical factors affecting the design of rural development strategy, implementation and testing await further research and experimentation.

## PROBLEMS OF POLICY IMPLEMENTATION

Dissatisfaction with the pace and direction of economic growth and social progress in the Third World during the 1960s, it has been argued, was a primary force behind the emerging assistance strategies of the 1970s. Investment priorities shifted from programs and projects designed to achieve higher levels of GNP to those seeking balanced economic growth with social equity.

The foregoing analysis of three such assistance policies indicates that each, in a slightly different way, is attempting to cope with the complex problems of rural poverty. Rural regions, in which most of the poor live, have become the focus of the new development strategy. Each of those policies seems to declare that if development cannot reach the masses of rural poor, if it cannot at least slow the rate of growth in the widening gap between a rich few and the poverty-stricken majority, it is at best a superficial and perverse form of change. They proclaim that mere economic and physical growth, limited to urban enclaves in developing nations, simply cannot solve their fundamental social and economic problems and that it may, in fact, aggravate the adversities in traditional communities by further polarizing societies into dual sectors.

The three strategies, summarized and compared in Table 1, although differing in their content and scope, all seek similar objectives and share common concerns. All define, in more or less concise terms, a similar group of people who must benefit from any policy of rural development: landless laborers, subsistence peasants, sharecroppers and tenants, unemployed and underemployed laborers in urban and rural regions, small-scale farmers and marginal entrepreneurs and craftsmen. Each policy would increase agricultural productivity and expand employment opportunities to absorb excess and underutilized rural workers. Each seeks to create a production system capable of distributing to the majority of people basic human necessities beyond

Table 1

COMPARATIVE PROFILE OF INTERNATIONAL  
ASSISTANCE STRATEGIES FOR INTEGRATED RURAL DEVELOPMENT

	FUNCTIONAL COORDINATION STRATEGY-- WORLD BANK APPROACH	RURAL MODERNIZATION STRATEGY-- UNITED NATIONS APPROACH	INTEGRATED DEVELOPMENT STRATEGY--USAID APPROACH
TARGET GROUP	<p>Approximately 40% of the population in developing nations in absolute poverty (with incomes of less than \$50 a year) or in relative poverty (with incomes below one-third of the national average).</p> <p>Small scale farmers, tenants and landless laborers.</p>	<p>Low income farmers and peasants living in rural areas, outside of cities, towns and industrial enclaves.</p>	<p>Those people living primarily outside of or at the lower income end of the modernized sector.</p> <p>Subsistence farm families, pastoralists, landless laborers, unemployed market town laborers, small-scale non-farm entrepreneurs and craftsmen.</p>
OBJECTIVES OF DEVEL- OPMENT STRATEGY	<ol style="list-style-type: none"> <li>1. Increase agricultural output and productivity</li> <li>2. Increase employment and raise incomes of the rural poor</li> <li>3. Provide minimum acceptable levels of food, shelter, education and health services</li> <li>4. Diversify economic bases of rural communities</li> <li>5. Reduce overall number of people living in relative and absolute poverty</li> </ol>	<ol style="list-style-type: none"> <li>1. Transform rural regions from subsistence to commercial agricultural areas</li> <li>2. Modernize rural inhabitants and change attitudes toward development</li> <li>3. Increase per capita incomes of economically active population</li> <li>4. Ensure minimum food supplies and basic nutritional requirements</li> <li>5. Reduce outflow of population from rural to urban areas</li> <li>6. Reorient and diversify rural economies</li> </ol>	<ol style="list-style-type: none"> <li>1. Strengthen local institutions in order to involve the poor majority in development</li> <li>2. Increase and diversify agricultural production</li> <li>3. Integrate agricultural, industrial and commercial development</li> <li>4. Improve nutrition</li> <li>5. Localize infrastructure and increase access of poor to services and facilities</li> <li>6. Increase employment and improve income distribution</li> <li>7. Strengthen or create linkages between rural and urban centers in a regional spatial system</li> </ol>

Table 1 (continued)

	FUNCTIONAL COORDINATION STRATEGY-- WORLD BANK APPROACH	RURAL MODERNIZATION STRATEGY-- UNITED NATIONS APPROACH	INTEGRATED DEVELOPMENT STRATEGY--USAID APPROACH
MAJOR ASSUMPTIONS AND PERCEPTIONS OF THE PROBLEM	<ol style="list-style-type: none"> <li>1. Rural poverty results from low agricultural productivity and lack of economic diversification in rural areas</li> <li>2. Poor have limited access to services and technology</li> <li>3. Vested interests limit opportunities for productivity and employment expansion</li> <li>4. Slow rate of transfer of rural people out of low-productivity agriculture</li> <li>5. Benefits of production increases are inequitably distributed</li> <li>6. Land tenure, fragmentation and sharecropping limit opportunities for increased productivity</li> <li>7. Inputs must be functionally coordinated in order to deal with variety of related problems</li> <li>8. Quality of life in rural areas can be improved through mobilization of limited land, capital, and labor resources</li> </ol>	<ol style="list-style-type: none"> <li>1. Low productivity in agriculture due to persistence of traditional attitudes, mores and institutional structures</li> <li>2. Small proportions of national resources are now invested in agricultural production</li> <li>3. Traditional land tenure systems perpetuate subsistence agriculture</li> <li>4. Lack of infrastructure, appropriate technology, services and facilities in rural areas constrain production</li> <li>5. Gap between incomes of urban and rural workers is primary cause of rural outmigration</li> <li>6. Changes in production techniques from primitive to modern can increase agricultural production and reduce income gaps</li> <li>7. Coordinated inputs of services, facilities, and infrastructure can transform traditional communities</li> </ol>	<ol style="list-style-type: none"> <li>1. Dual goals of increased production and social equity are consistent and interrelated</li> <li>2. Increased agricultural productivity depends on increasing access of small farmers to production inputs, technology, financial resources and markets</li> <li>3. Local institutions must be created to deliver inputs and sustain growth</li> <li>4. Equity requires employment expansion and human resource development</li> <li>5. Rural spatial systems are neither horizontally nor vertically integrated, inhibiting creation of national spatial economy</li> <li>6. Self-sustained growth requires functionally and spatially integrated production systems</li> </ol>
OPERATIONAL PREMISES	<ol style="list-style-type: none"> <li>1. Successful rural development requires strong national government support</li> <li>2. Rural programs can be designed to reach large numbers at low cost</li> <li>3. Inputs must be supplied through low cost delivery systems</li> <li>4. Rural organizations and cooperatives are essential elements of the administrative system</li> <li>5. Central control must be balanced with decentralized spatial and project planning</li> </ol>	<ol style="list-style-type: none"> <li>1. Adverse geographical and ecological factors must be analyzed and appropriate solutions to problems tested within each rural region</li> <li>2. Projects must generate economic resources for investment in directly productive enterprises and social services</li> <li>3. Agricultural technology must be transformed and new technology adopted to increase output</li> </ol>	<ol style="list-style-type: none"> <li>1. Investment priorities should be balanced between urban and rural areas</li> <li>2. Spatial considerations must be taken into account in allocating infrastructure and service projects</li> <li>3. Planning strategies should consciously seek to develop spatial components at the lower end of the national hierarchy--market towns,</li> </ol>

Table 1 (continued)

	FUNCTIONAL COORDINATION STRATEGY-- WORLD BANK APPROACH	RURAL MODERNIZATION STRATEGY-- UNITED NATIONS APPROACH	INTEGRATED DEVELOPMENT STRATEGY: USAID APPROACH
OPERATIONAL PREMISES (cont.)	<ol style="list-style-type: none"> <li>6. Popular participation is required in project planning and implementation</li> <li>7. Increased training is required for local planners and managers</li> <li>8. Project costs should be recoverable to generate capital for reinvestment</li> <li>9. Appropriate and adaptive technology packages must be developed for rural areas</li> <li>10. Supplementary social services and facilities must be provided in a coordinated package</li> </ol>	<ol style="list-style-type: none"> <li>4. Institutional and social changes must be induced in order to transform and modernize rural communities</li> <li>5. Political and administrative mechanisms must be designed specifically to implement rural programs</li> <li>6. Services, facilities, technical, administrative inputs and infrastructure must be combined into "minimum packages"</li> <li>7. Programs must be implemented within a regional planning and development framework</li> </ol>	<p>small, and intermediate cities</p> <ol style="list-style-type: none"> <li>4. Programs must emphasize domestic food production and marketing</li> <li>5. Successful implementation requires development and testing of appropriate technologies</li> <li>6. Land improvement programs are preferable to land resettlement and large scale colonization</li> <li>7. Emphasis should be placed on small-scale social services and appropriate size infrastructure and facilities</li> <li>8. "Bottom up" planning and local participation in rural development are essential for successful implementation</li> </ol>
APPROACHES TO IMPLEMENTATION	<ol style="list-style-type: none"> <li>1. No single approach recommended-- functional coordination of inputs is considered essential in any strategy</li> <li>2. Experiment with:               <ol style="list-style-type: none"> <li>a. Minimum package approaches</li> <li>b. Comprehensive national or area development programs</li> <li>c. Sector or special programs supplementing coordinated rural development projects</li> </ol> </li> <li>3. Bank to provide financial and technical assistance in research, project design and implementation</li> </ol>	<ol style="list-style-type: none"> <li>1. No single approach recommended-- rural transformation should be the basic objective of any integrated strategy</li> <li>2. Evaluate on-going programs in various developing countries and determine how they can best be expanded into integrated projects</li> <li>3. UN to provide technical assistance in strategy design and evaluation of successful projects for potential replicability in other countries</li> </ol>	<ol style="list-style-type: none"> <li>1. Each country must determine most appropriate approach based on internal needs and capabilities--spatial and functional components should be integrated in any strategy</li> <li>2. Programs and projects should be designed by general guidelines stated in operational premises, but tested against past experience</li> <li>3. AID to provide financial and technical assistance through country Missions for program and project design and funding for components in accordance with AID Development Assistance Priorities</li> </ol>

income that merely sustains life--adequate shelter and nutrition, appropriate training, health and other social services--and the facilities required to transform rural villages and small towns into viable communities. Each to a different degree sees the need to create a spatial system linking rural villages to larger urban places, through which services, facilities and opportunities for individual improvement can become more easily accessible, and all aim to create a self-sustaining rural economy linked through a hierarchy of settlement centers to the national economy.

All approaches value increased agricultural productivity as an indispensable, yet insufficient, component of rural progress and each sees the need to deliver assistance through an integrated set of functions--economic, social, political, technical, administrative, and physical inputs--coordinated to overcome major deficiencies inhibiting rural growth and social transformation, and to complement comparative locational advantages.

Each strategy, as Table 1 indicates, is based on a set of assumptions and perspectives of the problem which differ in emphasis and priority but which describe essentially the same conditions. Operational premises may vary in particulars, but together they define a set of preconditions and guidelines for successful program and project design.

If the strategies are weak, the frailties are most visible in their approaches to implementation. Although the guidelines and prescriptions are numerous and detailed--some are based on experience and others on speculation--none of the strategies clearly maps the path to attaining its own objectives. Each assistance organization admits, more or less explicitly, that the new strategies are complex social experiments, and that even the most strongly stated assumptions and premises are only hypotheses; their validity and feasibility remain untested. Basic theoretical and operational problems--essential to successful design and execution of rural development projects--remain unresolved.

### Lack of Operational Theory

Although extensive experiments with rural development have been conducted for more than two decades, neither assistance agencies nor many developing countries have the experience needed to plan and execute proposed integrated urban-rural projects. "Although A.I.D. does not have experience in organizing local market areas and market towns," the Agency admits, "there is a sound theoretical base (from several academic disciplines of which regional planning is the most important) plus solid, practical experience in a small number of countries, principally Israel, Egypt, Yugoslavia and Taiwan, upon which policies can be built."<sup>36</sup> Yet, it is not clear how the theoretical base will be translated into operational guidelines. Definition of such terms as "regional development," "integrated spatial planning," "growth centers," and "market towns," used repeatedly in policy statements and plans will be a complex task since most developing nations and aid agencies use them differently. Once basic concepts are defined they must be translated into design and implementation standards. Complex issues arise here also--determining the best means of allocating resources among functions and geographic areas, the appropriate mixes of investment and the proper sequencing of activities.

### Lack of Knowledge Concerning the Human Ecosystems of Developing Nations

Social, economic and human ecological implications of the emerging strategy remain, at best, vague conjecture. Although strenuously advocating an integrated approach, the Ford Foundation seminars on employment problems in developing nations identified fundamental issues requiring intensive research. "Unfortunately, the concentration of planners and central government policy-makers on macro-economic considerations and on large projects which might attract foreign aid has meant," participants noted, "that the basic homework necessary to define practical strategies for balanced rural-urban development has

been seriously neglected."<sup>37</sup> Among the questions requiring attention are determination of ways of generating non-agricultural work opportunities, costs of creating jobs in rural areas as compared with cities; costs of infrastructure and social services in small towns, market centers and intermediate cities; and the potential impact of alternative spatial patterns on income distribution and employment.

But even more importantly no new approach to spatial development can succeed unless it clearly reflects a thorough understanding of the traditional human ecosystems it intends to change and of the "client population's" values, aspirations, mores and perceptions of the biophysical environment, especially as the latter pertain to renewable resources.

In the absence of a thorough understanding of pre-existing human ecosystems, wholesale alteration of the biophysical environment in which food procurement systems operate, together with major infrastructure changes, will probably elicit responses from the local population unintended by development planners. Environmental perceptions of client populations are basic indicators for assessing the potential for traditional systems to be modernized, and in predicting the likely "human" impact of planned changes.<sup>38</sup>

#### Scarcity of Analytical Ability

It is uncertain, moreover, that poorest developing countries have the capacity to design integrated spatial systems, or that massive infusion of technical assistance will create that capacity. Inevitably, strategy design must reflect the most effective hierarchy of intermediate cities, market towns and rural processing centers, which requires an accurate analysis of social differentiation, natural and human resources, development potential and economic specialization. From such an analysis, the potential for creating comparative economic advantages in each development center must be determined, and regional



growth centers designated for the location of export industries and markets. Smaller urban places to serve as processing points and markets for agricultural areas must be identified. To forge dispersed development centers into a national spatial system, a network of inter-urban transportation, communication and energy facilities must be constructed, linking urban areas facilitating interchange between urban centers and rural hinterlands.

#### Lack of Procedures for Generating Local Participation

In view of the scarcity of analytical ability, and in order for planned change to be adapted to local conditions local people should have a major role in making the decisions and formulating the plans that will affect their lives. Their input is fundamental, largely because so little is known about traditional subsistence systems which developers seek to change. The relevance and characteristics of various elements, functions and structures of human ecosystems can probably never be adequately discerned by outsiders. Description and analysis of the rural environment to be "developed" must either be done by local planners or in close collaboration with them. But traditional approaches to development have either ignored this aspect of the problem or heavily discounted it in practice. Proponents of conventional extension and training approaches often claim that a two-way flow of information exists between the national government and local communities, but realistically, in most countries, information flows only from the top down. The problem is often exacerbated by the fact that most development planners consider client populations neither able to diagnose their problems nor to formulate their needs--incapable of devising strategies for their own development.

#### Inadequacy of Subsistence System Indicators

The ultimate aim of the new development policy is to redistribute the benefits of growth and change to those living at or near subsistence

levels. Yet, little is really known about the nature or environment of subsistence systems. Generally defined, a subsistence system is a particular combination of technologies, institutions and strategies through which a community modifies and exploits renewable natural resources in order to sustain itself. The concept involves complex relationships between the human community and its biophysical environment through which both human and environmental elements mutually affect each other. Because of the circular relationship between people and environment, the environment can be regarded as "both a result of and an influence on human behavior. Man affects the environment; in turn, the changed environment requires new responses from and acts to rearrange man's image of his surroundings."<sup>39</sup>

The term "subsistence" generally evokes the stereotype of a hard-scrabble family farm, whereon food is procured by "primitive" hit-or-miss methods of cultivation, complemented by animal husbandry, fishing, hunting and gathering. Generally it is assumed that hard work, just to survive, is continuous; labor yields pitifully low returns; life is insecure and miserable; and dietary, nutritional, and health levels are abnormally inadequate. Subsistence farming is thought incapable of producing marketable surpluses and that its labor force lives largely outside the cash economy. Although this may indeed characterize many forms of subsistence, systems vary widely, and development plans cannot safely assume that all subsistence systems are the same, and attempt to intervene without understanding particular ecologies. For practical decision-making, re-evaluation of the productivity of relationships among labor, technology, and natural and human resources is urgently needed, and the capability of different subsistence systems to sustain life over several generations and to produce food of an acceptable dietary quality must be determined. The long-term ecological stability of individual systems and their potential for transformation into more highly developed communities must also be assessed.

Similarly the nature of other components of the spatial system have

not been adequately investigated. The reasons for and means of creating various forms of rural market and processing points, small crafts and industrial centers, distribution and service towns, each of which is an essential element of an integrated spatial network, are only vaguely known. The role and functions of small and intermediate size cities and provincial and regional administrative centers in developing nations have received scant attention.

#### Limited Administrative Capacity

Finally, both assistance agencies and governments of developing nations will have to discover a means of quickly expanding the organizational capacity of countries with severe shortages of trained professionals and efficient bureaucracies to deliver technical and functional support to dispersed spatial locations. Where integrated rural development has been tried and evaluated, the lessons for effective implementation are clear.<sup>40</sup> Success depends on the government's ability to provide a combination of related inputs that include: 1) administrative arrangements for resource mobilization and coordination, 2) continuing and reliable administrative support for each project, 3) local commitment to and participation in program activities, and 4) organizational, functional and technical input delivery to spatially dispersed project sites.

In brief, international assistance agencies and developing nations, in formulating integrated urban-rural development strategies, are pursuing a policy that both reason and experience indicate are of critical importance to social and economic progress, but one that requires mobilization of resources from nearly every sector of emerging societies. The operational implications for executing such a strategy are profound and complex. Plans and policy statements yield little evidence, however, that the implications have been clearly identified, carefully considered and intensively explored.

But to the extent that each strategy prescribes a functionally integrated approach with a strong spatial base, many of the hypotheses can be better formulated, although not actually tested, by reviewing experience with rural development programs undertaken in the past. A review of that experience, if it does not provide answers to the complex problems of implementation, can at least assist policy analysts and program designers to ask more searching and cogent questions.

What are the components of an integrated spatial system necessary to link productive and distributive activities in rural and urban places into a mutually reinforcing socioeconomic network? What functions are, or can be, performed at each of these places? Which services are, or can be, developed at various levels within a well-articulated spatial hierarchy? Which functional inputs are necessary and sufficient to generate increased agricultural productivity and higher levels of income? Which supporting services and facilities are required? How can functionally integrated programs be most effectively organized and delivered? What are the alternative spatial configurations for locating essential functions and services needed to support rural development? The following chapters, drawing on the lessons of experience, address these and related questions.

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## CHAPTER THREE

### IMPLEMENTING INTEGRATED RURAL DEVELOPMENT: NATIONAL POLITICAL AND ADMINISTRATIVE SUPPORT

A major constraint on implementing integrated rural development strategies is the difficulty of determining the most effective combination of inputs for promoting growth with equity. The United Nations Asian Development Institute notes the serious gaps " . . . in the knowledge of economic and social relations and in the working of institutions as well as in techniques and analysis,"<sup>1</sup> and the World Bank's rural sector policy paper cites the "inadequacy of information concerning the circumstances of the rural poor and the ways in which rural development can be accelerated."<sup>2</sup> In its report to Congress on the new directions in development assistance, the U.S. Agency for International Development, states the problem more bluntly: "determining the precise application of general development approaches in specific cases remains, despite all our efforts and those of thousands of practitioners and scholars alike, a very murky, difficult, uncertain, complex and intractable business."<sup>3</sup>

Difficulties arise from a number of sources. Although much has been written about techniques for increasing agricultural production, little is known about the best combination of technical, social, economic and administrative functions for promoting rural development. When social equity and anti-poverty objectives are added to those of increasing agricultural productivity, the problem becomes more complicated than one of merely raising economic output. Neither assistance agencies nor governments in developing nations have had much experience with integrated rural development, expanding employment, redistributing income, reducing regional growth disparities and balancing spatial development. The ultimate beneficiaries of integrated rural development, moreover, have never been precisely identified and their characteristics,



behavioral patterns and institutional practices are poorly understood, making it difficult to determine the most appropriate combination of activities needed to alleviate their problems.

Strategy implementation is also complex because rural development always requires a combination of functional inputs; no single service, facility or resource is likely to make a substantial impact. Yet, each input has a range of possible effects on rural society, causing changes that can neither be clearly foreseen nor totally controlled. Indeed, intervention often generates consequences that are unanticipated and unintended, and when a variety of inputs of the number needed for rural development are combined in a single integrated project, they produce a large array of unintentional consequences. The problem is further compounded because no universally applicable strategy can be designed for all developing nations, or even for groups of nations at similar levels of development. Conditions differ drastically among countries, and among regions within the same country. Because spatial patterns, cultural, social, political and economic traditions, and administrative practices are so diverse, the needs, constraints and capacities for problem-solving vary. Hence, functional inputs essential for increasing agricultural productivity and expanding income in one country may be of marginal importance in others.

But if progress is to be made in implementing the new development strategies, development planners must confront the difficult problems inherent in program design and execution. Knowledge is always incomplete and circumstances always differ; and therefore, research and experimentation must proceed simultaneously in policy analysis. The next few chapters of this study have thus, two major purposes: to compile an inventory of components that the rural development literature deems essential for implementing programs and projects, and to review and evaluate experience of developing nations using those components to promote rural development. Ultimately, projects must be tailored to the needs and constraints of individual countries, and although a

review of potential inputs may provide insights that assist project planners and managers to avoid mistakes and to improve designs, any particular combination must always be retested within each new environment.

Rural development literature contains a bewildering and sometimes contradictory array of recommendations regarding inputs essential to achieve policy objectives, but at the same time it reveals some pervasive patterns of agreement. Four general sets of inputs are recurrently identified:

1. National policy and organizational inputs include such factors as political commitment to the goals of rural development and social equity; national administrative support for rural development policy; planning and programming procedures for setting priorities and translating policies into programs; a system to provide continuing budgetary resources to rural development projects; and the organizational capacity to coordinate and implement rural development activities. Other inputs include arrangements for decentralizing decision-making and implementation authority; appropriate international trade policies for maintaining balance of payments and export markets for surplus goods; clearly defined policies supporting rural development, such as migration, education, labor, land distribution, and population planning; and access to international funding and technical assistance.

2. Technical inputs and direct program components are elements of the "package" of services and facilities delivered to rural areas or those included in a discrete rural development project. Among the essential technical inputs are: appropriate technologies for primary production; local institutions such as cooperatives and farmers associations; an accessible system of credit and finance; marketing and storage facilities; physical infrastructure, and public utilities. Other direct components include extension services; agricultural training programs; systems for testing and diffusing innovations;

formal and nonformal education; land improvement and resettlement schemes; basic health and social services; and small-scale agricultural processing industries directly related to the local primary resource base.

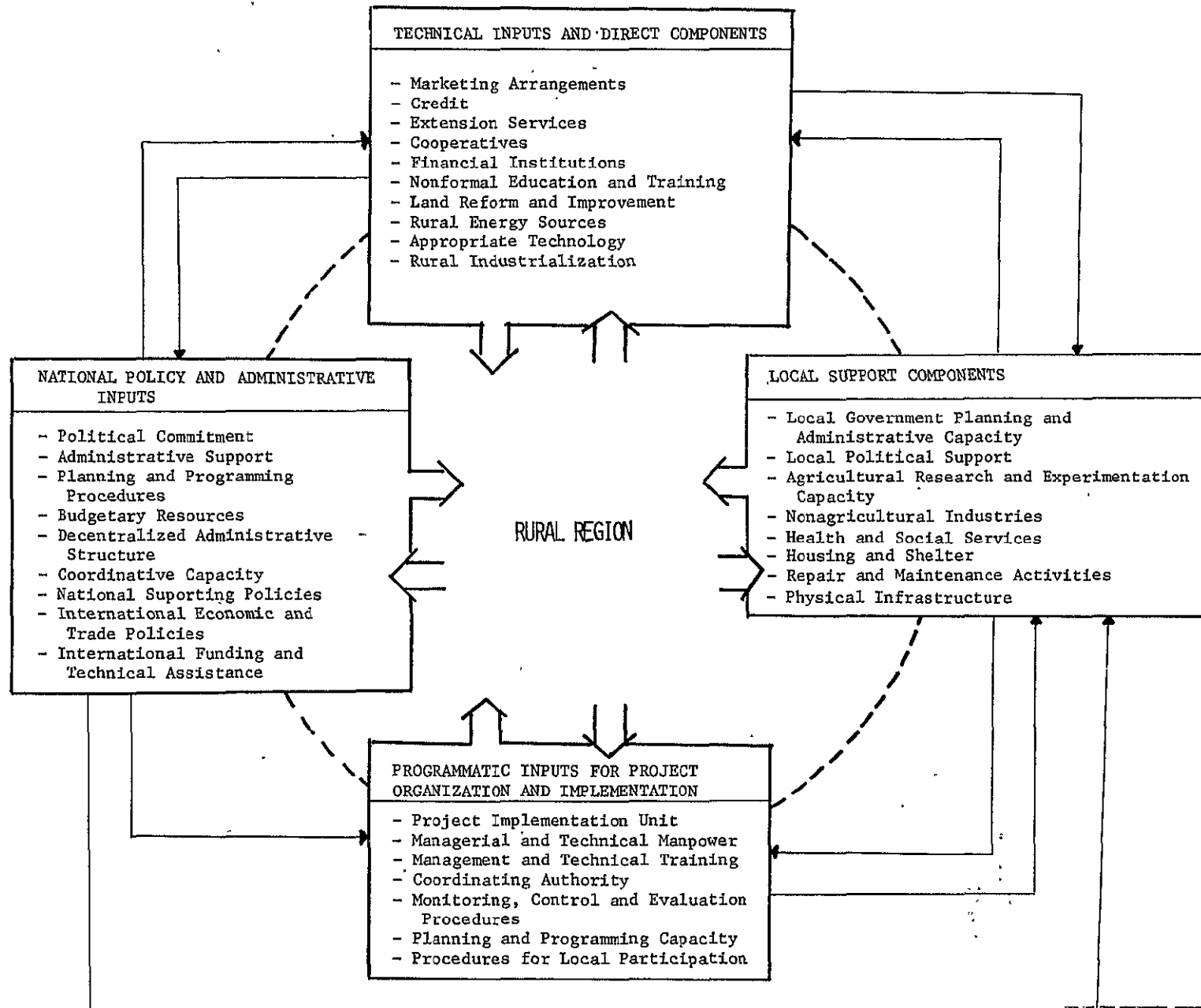
3. Programmatic inputs for project organization and implementation include organizational structures and managerial manpower and procedures, required to plan and execute rural projects. These inputs include an adequately staffed and funded project implementation unit with direct responsibility for executing rural development activities, appropriate project planning and programming systems capability, an ongoing evaluation capacity, staff training procedures, and effective mechanisms for involving local people in project planning and implementation.

4. Local support components are comprised of those inputs needed to build, expand and maintain the capacity of local, district or regional governments and private institutions performing support functions in the project area. Among the inputs needed are local political commitment to national rural development programs; local government planning and administrative capacity; agricultural research and experimentation units; minimum levels of public services; small-scale nonagricultural industries and commercial activities; adequate housing and shelter; repair-maintenance-service activities; and manpower training programs.

Together, the inputs depicted in Table 2 represent a protean array of requirements, the nature and impact of which are only vaguely understood. This chapter describes the national policy and administrative requirements for rural development, Chapter 4 concentrates on technical inputs and Chapter 5 reviews local organizational needs for project implementation. A review of the problem of the magnitude of rural development, however, must necessarily be less than totally comprehensive, the literature being too voluminous and diverse for concise summary; thus, only those aspects with the strongest policy implications for making

Table 2

FUNCTIONAL COMPONENTS OF INTEGRATED RURAL DEVELOPMENT



integrated development strategy operational, were selected for discussion.

Three major points emerge as the analysis proceeds: 1) ultimately all of the inputs are related, forming a mutually reinforcing set of preconditions and elements for building the productive capacity of rural areas, 2) inherent within these inputs is a "hierarchy" of functions--ranging from traditional to modern--each essential to a different stage or level of development, and each performing a valid role in transforming rural areas from one stage of development to another, and 3) corresponding to the hierarchy of functions is a hierarchy of spatial locations from and to which those inputs must be delivered in order to promote social transformation and to create an integrated national economy.

In developing countries the national government is generally the only entity capable of initiating, organizing and guiding programs of the magnitude and complexity of integrated rural development. Without national political, administrative, financial and technical support, integrated rural development programs fail. National inputs, must be substantive, extensive and continuous. Commitment to a complex program aimed at transforming social and economic structures in rural areas, breaking political bottlenecks, and consolidating local support must be strong if change is to be introduced and sustained. Among the most important national inputs are high-level political commitment, organizational support, and the willingness and capacity of ministries and agencies to establish a set of complementary policies and programs to reinforce rural development projects.

#### POLITICAL COMMITMENT

Top-level political and government support for rural development policy is the sine qua non of strategy implementation. International assistance

agencies recognize its importance and that it is often an element missing in developing countries. USAID notes that "a great gap remains between sentiment, rhetoric and policy in many nations" and that narrowing this gap is a prerequisite to operationalizing policy.<sup>4</sup> The World Bank similarly contends that "a strong commitment to rural development policies at the national level is required if the impact on the problems of poverty is to be effective and broad based. In some developing countries, present policies and institutional structures are so far from favorable to rural development that a policy shift could only follow major political change."<sup>5</sup> Political commitment must involve a strong, pervasive and sustained determination by the highest levels of leadership to achieve the goals of rural transformation, economic reorganization and social equity. Simple declarations of intent without strong measures for administrative reform are, at best, vacuous promises. But at the same time, top-level political commitment must rest on a broad base of political support from government agencies, political groups and cooperative associations. Farmers must be able to sustain enough pressure on government to prevent the sabotaging of programs by elites and entrenched interests in national and local bureaucracies.

High level political support is necessary for three basic reasons. First, political commitment is needed to articulate strategy in national policies, major legislative declarations, national plans and administrative orders. The history of rural development, especially in Asia and Africa, indicates that political initiative by charismatic leaders and ideological movements, were prime forces in articulating the need for and goals of rural development. In India, Pakistan, Taiwan, Malaysia and the People's Republic of China, widely varying yet equally forceful political commitments generated national policies for reallocating national resources to rural areas. In Africa, particularly in recently independent countries, nationalistic political leaders seized on the concept of rural development to consolidate tribal support and create a new national polity. As Cowan notes in his review

of African rural development, the strong motivation by national political leaders was required to stimulate rural development plans, and their conception of the role of rural areas in national political development overwhelmingly influenced the scope and content of those plans. "If the party in power sees the need for rural mobilization as part of the program of total transformation of society, the approach used to bring about rural change will involve different methods than if government sees its role only as that of providing favorable conditions within which the responsibility for progress lies with the individual," Cohen observes. "The ideological preconceptions of the leaders toward which rural development is aimed will affect the rate and direction of change as well as the distribution of opportunity extended to different groups within the rural community."<sup>6</sup> In Africa, the strength of political commitment determined not only the extent to which rural development needs were reflected in national development plans, but also the combination of elements included in programs and projects.

Second, political support is needed to ensure high priority for rural development policies in resource allocation decisions. Without stable and continuous political commitment from the highest levels of government, policy statements and plans remain mere rhetoric. Rural development requires the continuous attention, indeed the almost single-minded commitment, of political leaders to ensure that plans are transformed into action and that resources are reallocated to rural development activities. The lack of political support in Sri Lanka, for example, aborted national attempts to initiate and sustain a serious rural development policy. Kanesalingham points out in his evaluation of that country's rural development program, that a succession of plans "were generally not implemented--that they lapsed soon after their formulation" simply because no forceful political commitment directed the allocation of resources and the machinery of government toward accomplishing policy objectives.<sup>7</sup> The structure of the political system--a parliamentary coalition of contending minority parties--could not sustain political support, and frequent changes in government left

rural development plans in a state of continuous uncertainty, ignored by cabinet ministers, the bureaucracy and local government leaders and elites.

On the other hand, partly because of the persistence of President Ayub Khan, Pakistan was more successful in launching an extensive rural development program and in reallocating national resources to rural areas. Khan's commitment to the Basic Democracies program placed political support behind government actions to restructure the bureaucracy and organizational framework in rural areas, and to redirect the flow of resources to them.<sup>8</sup>

Political commitment is needed, finally, to break the barriers of entrenched interests preventing the redistribution of resources necessary for rural transformation. Analyses of Indian experience confirm the degree to which national political commitment is required to overcome vested interests at both national and local levels. Mathur argues that in India "vested interests already entrenched in the rural society and rising new agricultural classes have been mainly responsible for insulating the poor from the benefits of development. It has not been possible for the government to penetrate this barrier."<sup>9</sup> Rural elites generally promote programs from which they will benefit and block those likely to change the rural social or economic structure to their disadvantage. By using political contacts at the national level, elite groups can generally " . . . distort or twist the objectives of the program as well as procedures for implementation," and redirect the flow of benefits toward themselves. When distortion at the national level is not possible, they attempt to block implementation or undermine administrative agencies within the state and if that fails, elites provide temporary, superficial support and then undermine the program at the village level. In India, Mathur argues, "the end result of all of this is that while pockets of development programs are seen at the level of the elite, little change takes place at the societal level."<sup>10</sup>



## NATIONAL PLANNING, PROGRAMMING AND ORGANIZATIONAL INPUTS

The very nature of integrated rural development projects--demanding a wide variety of administrative, policy, financial and technical inputs--increases pressure on national government planning and organizational machinery. Such programs are both technically and organizationally complex, requiring high degrees of cooperation and coordination. Substantive contributions from a myriad of governmental agencies must be properly combined and sequenced in order to be mutually reinforcing. Public as well as private organizations provide critical inputs. Both government and private institutions affect price systems and the availability of capital. Marketing institutions, extension services and research organizations influence the discovery, dispersion and adaptation of new agricultural technologies; banks, credit unions, cooperatives and other financial institutions control the flow of funds to both the project organization and rural beneficiaries of the program. Transportation, transfer and storage firms control the distribution of increased production resulting from agricultural projects. "[It] is vitally important to expand the entire complex of services and industries required to achieve the higher production," Clifton Wharton concludes from a decade's experience with the Green Revolution in Asia. "Any government or agency which distributes the "miracle" seed but fails to provide the insecticide and fertilizer in the appropriate quantities when and where needed is courting political disaster. Unless these inputs are available and used, some local traditional varieties will out-yield the new ones."<sup>11</sup>

The organizational complexity of a single aspect of integrated rural development can be staggering. The Agrarian Reform Program of the Philippines, for example, established to improve land tenure, develop agricultural and physical infrastructure, strengthen local institutions, improve farm management and deliver technical training to farmers, required that institutional arrangements among at least 16 major government agencies be coordinated with financial resources coming from

at least another 10 government or quasi-public financial institutions (See Table 3).

Among those rural development functions generally performed by national government ministries and agencies are: 1) overall national, sectoral, and budgetary planning; 2) assessment of needs and requirements for rural development and preparation of ministry programs; 3) collection of taxes used to support rural activities and the allocation of central government financial resources to local projects; 4) negotiation, acquisition and distribution of foreign aid to local programs; 5) identification, planning and delivery of technical and functional services to rural areas (e.g., importing technology, providing extension, health, education and other social services), and construction of physical infrastructure, irrigation, and other agricultural facilities; 6) planning and programming agricultural production for various regions within the country and for specific commodities; 7) control over the organization and operation of rural development programs, and delegation of authority to subordinate implementation units; 8) provision of technical, administrative and supervisory personnel for training or participation in program implementation; and 9) transmission or settlement of claims or disputes in rural areas.<sup>12</sup>

If projects are to be implemented successfully under such complex organizational conditions, five major sets of inputs must come from the national government: strong administrative support from national ministries and their field offices; effective planning and programming procedures; a stable flow of national budgetary resources, organizational capacity to coordinate and implement programs and decentralized administrative arrangements.

#### Administrative Support

Integrated development projects depend on a wide variety of government resources and require strong support from administrative agencies and

Table 3

## RESPONSIBILITIES OF GOVERNMENT AGENCIES IN PHILIPPINES AGRARIAN REFORM PROGRAM

Government Agency	Major Responsibilities	Government Agency	Major Responsibilities
Department of Agrarian Reform (DAR)	<ul style="list-style-type: none"> <li>- Overall Project Coordination</li> <li>- Farmholding Identification</li> <li>- Land Valuation</li> <li>- Farm Management Support</li> <li>- Provision of Supervisory and Field Personnel</li> <li>- Provision of Administrative, Logistical, and Financial Resources for Program Operation</li> </ul>	Bureau of Agricultural Economics	<ul style="list-style-type: none"> <li>- Analyze and Interpret Data Collected</li> <li>- Provide Data Needed by DAR and Other Agencies</li> <li>- Provide Key Supervisory and Field Personnel</li> </ul>
Department of Agriculture and Natural Resources	<ul style="list-style-type: none"> <li>- Land Surveys</li> <li>- Farm Extension and Food Production Services</li> <li>- Coordinate with the DAR</li> <li>- Provide Some Key Supervisory and Field Personnel</li> <li>- Provide Communications Facilities and Network</li> <li>- Provide Transport Facilities</li> </ul>	National Computer Center	<ul style="list-style-type: none"> <li>- Provide FDP Support</li> <li>- Generate Management and Statistical Support</li> <li>- Generate and Print Certificates of Transfer</li> </ul>
Department of Local Government and Community Development	<ul style="list-style-type: none"> <li>- Provide Coordination with DAR</li> <li>- Formation and Operation of Cooperatives</li> <li>- Provide Some Key Supervisory Personnel up to the Provincial Level</li> <li>- Provide Funds for Supporting its Own Field Personnel</li> <li>- Provide Communications Facilities and Network</li> </ul>	Bureau of Lands	<ul style="list-style-type: none"> <li>- Make Available Records, Maps and Plans</li> <li>- Provide Survey Teams and Supervisory Personnel</li> <li>- Provide Funding and Logistics for its Own Field Personnel</li> </ul>
Department of National Defense	<ul style="list-style-type: none"> <li>- Coordinate with DAR</li> <li>- Provide Communications Facilities as Available</li> <li>- Assist in Conducting Information Drive</li> </ul>	Bureau of Public Schools	<ul style="list-style-type: none"> <li>- Provide Cooperation, Especially at Municipal and Barrio Level, to Implement Program</li> <li>- Provide Principals, Head Teachers and Teachers for Data Collection</li> </ul>
Department of Justice	<ul style="list-style-type: none"> <li>- Transfer of Land Titles</li> <li>- Provide Key Supervisory Personnel</li> <li>- Assist in Resolving Land Ownership Conflicts</li> <li>- Financially Support its Own Field Personnel</li> </ul>	Provincial, City, Municipal Government and Barrio Councils	<ul style="list-style-type: none"> <li>- Provide Cooperation to DAR in Program Implementation</li> <li>- Provide Some Key Personnel for Supervision of Data Collection</li> <li>- Provide Some Program Office Space</li> <li>- Provide Relevant Records and Information</li> </ul>
Department of Public Works, Transportation and Communication	<ul style="list-style-type: none"> <li>- Coordinate with DAR</li> <li>- Identify Infrastructure Projects</li> <li>- Provide Communications Facilities</li> <li>- Provide Funds for Supporting its Own Field Personnel</li> </ul>	Central Bank of the Philippines Agricultural Guarantee and Loan Fund	<ul style="list-style-type: none"> <li>- Guarantee Land Amortization</li> <li>- Provide Farm Credit</li> <li>- Guarantee Farm Credit</li> <li>- Financing Acquisition of Lands</li> </ul>
Bureau of Agricultural Economics	<ul style="list-style-type: none"> <li>- Analyze and Interpret Data Collected</li> <li>- Provide Data Needed by DAR and Other Agencies</li> <li>- Provide Key Supervisory and Field Personnel</li> </ul>	Development Bank of the Philippines	
		National Investment and Development Corporation	
		Land Bank	
		Agrarian Reform Special Account	
		Other Government Loan Funds	
		Department of Education and Culture	<ul style="list-style-type: none"> <li>- Coordinate with DAR</li> </ul>
		Bureau of Agricultural Extension	<ul style="list-style-type: none"> <li>- Provide Some Key Supervisory and Field Personnel</li> </ul>
		Bureau of Plant Industry	<ul style="list-style-type: none"> <li>- Provide Funds for Support of Own Personnel</li> <li>- Provide Communications and Transport Facilities as Available</li> </ul>
		Land Registration Commission	<ul style="list-style-type: none"> <li>- Facilitate Title Processing</li> <li>- Provide Technical Services on Documentation and Titling</li> </ul>

SOURCE: Compiled from National Economic and Development Authority, Four-Year Development Plan FY 1974-1977 (Manila: Republic of the Philippines, 1973), pp. 188-91.

ministries in the form of specialized services, personnel, equipment and technical assistance. The commitment of administrative support, however, even to clearly defined, high-priority rural development programs, cannot merely be assumed. Indeed, ministries and autonomous agencies have often blocked implementation of rural development programs, or, have provided only passive support, thereby seriously delaying their progress. Problems in obtaining administrative support can arise at a variety of points in a program's life cycle: during initial decisions regarding its establishment, in translating broad development policies into operating programs, in obtaining resources, approvals and general cooperation from operating ministries during program execution, and in evaluating overall performance.

Experience with the Kenya Special Rural Development Program (SRDP) is instructive, for after nearly two years of careful planning, the national bureaucracy delayed program implementation and attempted to prevent it from obtaining needed financial and administrative resources. The cautiousness of senior staff at ministry headquarters about using SRDP as a vehicle for innovation not only delayed implementation but was reflected in the negative attitudes of field staff toward experiments which did not appeal to their own professional interests. "The longer term results," one observer notes, "were a lack of direction and punch which made it difficult to break bottlenecks at ministry headquarters, particularly over the release of funds and the supply of resources."<sup>13</sup>

In Lesotho, an agricultural mechanization program (FARMECH) had to be carried out almost entirely by local government councils because national ministries would not provide administrative resources. The original plans of the Department of Local Government assumed that the Department of Agriculture and the Department of Cooperatives would support the project with financial and technical assistance, but as one analyst notes, ". . . neither of these supports materialized; it would appear that there was not sufficient unity of government policy for the intentions of the three departments to be coordinated before plans were drawn up

or held consistent while they were implemented. Furthermore, the technical departments had no professional interest in local government . . . ."14 Instead, personnel in the national ministries, who felt that the Department of Local Government was attempting to encroach on their functions argued that farm mechanization was not feasible. The project proceeded slowly and "had no help at all from other departments until the signs of its success were unmistakable."15

#### National Planning and Programming

Because integrated rural development programs are both technically and organizationally complex, and because their success depends so heavily on the political and administrative support of public and private institutions at the national, regional and local levels, strong central planning and programming are essential. Most studies of rural development emphasize the importance of establishing or expanding national planning capacity, for without central direction and coordination, disparate inputs will not be integrated to achieve national goals. Uma Lele's evaluation of rural development programs in Africa notes that their ". . . multiple and, at times, conflicting objectives have rendered overall rural development strategy inconsistent and sometimes even self-defeating." The role of government planning, she concludes, must therefore be to reconcile, ". . . the needs for growth as well as for broadening participation and of finding a coherent rural development strategy which is politically feasible and economically sound and can be implemented administratively."16

Traditional forms of national macro-economic planning have generally failed to influence policy implementation or to guide development toward the goals of growth with equity. The weaknesses of conventional planning in Kenya as described by the World Bank's Economic Mission, are characteristic of the process in most developing nations.

" . . . The emphasis in macro-economic planning has tended to be on the production of a published plan," the Mission notes, "at the expense

of the plan as an implementable program of action. The private sector has been incorporated only peripherally; plans have had little project content; policy proposals are not always previously agreed upon; and plan programs have been frequently discarded during subsequent preparation of budgets." Neither political leaders nor organized interest groups actively joined in plan formulation, and ". . . even the major operating ministries have not always participated fully in the preparation of plans or monitored the implementation of their own programs."<sup>17</sup>

Experience with rural development in Africa suggests that national planning must provide centralized direction in order to coordinate a wide variety of public and private activities and to guide decisions concerning those activities toward achievement of national policy objectives. Yet the planning system must also admit a high level of decentralized analysis in order to account for local needs, constraints, values and opportunities for rural transformation and to consider in decisions the knowledge and information concerning the rural social system that is often available only within rural regions.<sup>18</sup>

General agreement exists among evaluators of national development planning that its value lies more in the process than in the generation of a plan. Swerdlow, for instance, argues that planning involves ". . . consciously developing a sequence of future actions to achieve specified goals," and as such should be a continuous process of "gathering, selecting and ordering information, of judging priorities and relationships and of initiating activities that lead to expected achievements."<sup>19</sup> The application of analysis and forethought to problems of rural development, by major groups concerned with, affected by or needed to ameliorate the problems, would make the planning process a more effective instrument for gathering and guiding action. Conventional approaches to national planning are often ineffective in guiding rural development activities because they focus on national macro-economic forces rather than on the micro-economic, social,

cultural and human dynamics that influence individual behavior and institutional change in rural areas. Weitz, analyzing Israel's experience with rural transformation, argues that "the planning method required to accomplish the institutional changes which form the essence of development . . . [must] be geared, first and foremost, toward people, their potentialities and their motivations."<sup>20</sup> In the Israeli program, national planners considered the purposes of production in different types of agricultural systems, the characteristics of rural work schedules, sources of capital and income, the level of farmers' agricultural knowledge and skills, linkages between farm and market, as well as patterns of social interaction among rural people and government institutions.<sup>21</sup>

But macro-economic planning cannot be effective unless it disaggregates analysis and injects it into more precise and meaningful subplans directly addressing rural policy problems. Swerdlow argues that planning must be capable of performing a hierarchy of analytical functions, including macro-planning that surveys major economic and social forces influencing national development; sector planning which determines the needs, constraints and potentials of specific elements of the national economy; functional planning that attempts to deal with multi-sectoral, national problems such as employment expansion, urbanization, and manpower development; program planning which is concerned with designing and implementing specific sets of activities for ameliorating functional, sectoral and national problems; and project planning that is concerned with the identification, design, appraisal, organization and implementation of particular activities and investments for achieving program goals. Rural development requires planning and programming at each level, with each form of analysis integrated with all others.<sup>22</sup>

Thus, developing nations need additional planning capacity in order to implement rural development, but not just more planning for the sake of planning. They need planning that balances centralized control with decentralized participation, a process that focuses on local conditions,

needs and patterns of human behavior, combining appropriate and multiple levels of analysis, linked directly to implementation.

### Budgetary Resources

A steady and reliable flow of national budget resources is one of the most important inputs for rural development. That financial support will be provided by the national government once it commits itself to a policy of rural development is too often simply assumed, but programs are regularly beset, even when they have had strong political and administrative support, by a paucity of operating funds. The agrarian reform programs of the Philippines, for instance, traditionally given high political priority by national leaders, have suffered annual budgetary shortfalls for more than a decade. Between 1965 and 1971 the Philippine executive branch released less than a third of the amount appropriated by the legislature for agrarian reform, the percentage of the national budget devoted to agricultural development actually dropped by 50 percent in 1972, and inflation in the early 1970s steadily eroded the value of rural development allocations.<sup>23</sup>

Even in countries where agriculture is the most important sector of the economy, contributing the most to national production and where the population is overwhelmingly rural, budgetary investments in agriculture tend to be low. In Ethiopia, for instance, less than 7 percent of central government expenditures go to agriculture. In Nicaragua, basically a rural nation almost totally dependent on agricultural production, the sector's share of public funds declined at a time when overall government capital and operating expenditures were increasing. Officials and field personnel of the agricultural agencies have never been able to provide even minimal services owing to inadequate budgetary resources, and many agencies must allocate as much as three-fourths of their annual allocations for salaries and wages, dividing the small remainder between operating and capital expenditures.<sup>24</sup>



The differences between amounts budgeted for rural development and the funds actually released can be enormous. In the Dominican Republic, for example, between 1966 and 1973, the percentage of the budget allocations released to the Secretariat of Agriculture ranged from a low of 36 to a high of 96 percent, with over \$40 million withheld during an eight-year period.<sup>25</sup> Most executing agencies in the Dominican Republic were hard pressed to perform even routine duties because of financial uncertainties. "Except for salaries, each budgetary allocation is obtained as a consequence of a lengthy justification process which results in project execution by fits and starts," an observer concludes. "Agency heads are forced to borrow from one project to support another. The budgetary resource flow process represents a significant constraint on development."<sup>26</sup>

An effective rural development strategy must identify these constraints and take action to overcome them in the early stages of planning, otherwise the projects will be hampered later by chronic shortages of financial resources. Among the most important budgetary problems facing developing nations are the lack of data and information on actual budgetary allocations to the ministries and agencies that implement development policy; long delays in allotted budget funds reaching their provincial and local field offices because of inefficient disbursement systems; and, their difficulties in obtaining non-personal services allocations at appropriate times during the fiscal year. In most developing nations, moreover, the lack of flexibility in fiscal procedures makes it impossible for ministries and field agencies to use allocated resources for innovative, contingency or unprogrammed expenditures. Financial management is hampered, in addition, by the failure of many line agencies to submit requests at the proper time, in standard format, and with adequate supporting documents, leading either to serious delays in receiving disbursements or to the refusal of budget authorities to consider requests; and by overly complex budget procedures established by the central government for submitting requests, especially for capital and equipment expenditures.

Fragmentation of budget authority, and the ability of autonomous agencies, commissions and boards to shelter their budgetary resources through special funds and direct appropriations, work to the disadvantage of line agencies. Finally, the failure of budget authorities to release allocated funds to rural development ministries and field agencies in time to be spent by the end of the fiscal year, is an informal means of cutting their spending power.

Rural development strategy must more closely link planning, programming and budgeting, to ensure a steady flow of funds to projects and programs. Some experiments in developing countries might provide a model for such action. The Government of Nicaragua, for instance, is experimenting with Sectoral Planning Units within the ministries to monitor and control budgetary resources. The unit within the Ministry of Agriculture is directly responsible for multi-year planning, program and project design, collecting and analyzing information to assist field agencies in the preparation of budget requests. The budget division assists public agricultural institutions to prepare and analyze their budget proposals, trains agency officials and staff in proper financial procedures, and advises the Minister on budget issues and on the allocation of resources from the National Rural Development Fund. The division is thus designed to play a major role in analyzing needed resources and ensuring disbursement to rural field units responsible for policy implementation.<sup>27</sup>

#### Decentralized Administrative Structure and Coordinative Capacity

Two other closely related national inputs are needed for effective implementation of integrated rural development: arrangements for administering rural development programs at the subnational level, through delegation of authority to provincial, regional or district governments or through a system of field offices of national ministries; and capacity for program coordination. Because integrated rural development requires a variety of inputs from diverse sources,

mechanisms must be established to guide the activities of organizations toward national policy objectives. Yet, at the same time, complex organizational interaction makes central administration and coordination difficult. Thus functions must be delegated, both to increase their efficiency and to build the institutional capacity of regional, provincial and local organizations. Uphoff and Esman, in an extensive analysis of local organization in rural development, evaluating 18 case studies undertaken by Cornell University's Rural Development Committee, concluded that rural programs in every country are the responsibility of a mixture of public and private institutions and that the complementarities among those organizations are as important to the success of rural development as the functions performed by each institution. "While there are isolated instances of local organizations taking initiative, mobilizing resources and accomplishing certain development objectives, in most countries considered, the cumulative effects of such efforts has been negligible," they report. "What count are systems or networks of organization, both vertically and horizontally, that make local development more than an enclave phenomenon."<sup>28</sup> The implications of the Cornell Rural Development Committee's studies are that improving agricultural production and increasing the standards of living among the rural poor requires that central government and local resources be matched with those of private sector and political organizations; that improving service delivery and development activities depends on establishing and strengthening linkages among central, provincial, and local government and private organizations; and that linkages are established and maintained between and among organizations through continuous interaction and exchange of information and other resources.

As Table 4 indicates, the mixture of organizational inputs for rural development from national administration, local organizations, private sector and political institutions varies widely from country to country, but in nearly all countries each type of organization performs some essential functions.

Table 4

RELATIVE IMPORTANCE OF ORGANIZATIONAL CHANNELS  
FOR RURAL DEVELOPMENT

Country	Percentage of Functions Performed			
	National Administration	Local Organizations	Private Sector	Political Organizations
Yugoslavia	13	57	16	14
Japan (1960)	23	56	15	6
Israel	34	54	6	6
Egypt	45	43	8	4
Taiwan	40	43	12	5
China	41	42	3	14
Japan (1920)	31	42	26	1
Sri Lanka	34	42	11	13
Korea	52	32	16	0
Pujab, India	32	27	36	5
India	41	22	29	8
Indonesia	55	22	22	1
Philippines	45	20	32	3
Bangladesh	44	18	35	3
Thailand	50	17	33	0
Turkey	44	15	33	8
Pakistan	48	12	37	4
Malaysia	62	6	27	5

SOURCE: Uphoff and Esman, p. 29.

One essential but frequently overlooked coordinating function of governments in developing nations is to obtain the cooperation of private organizations. Retailers, wholesalers, middlemen, money lenders, credit institutions, equipment and farm supply distributors and local merchants all play important roles in both agricultural activities and rural politics. Their influence can either advance or obstruct government projects. The need for coordination varies, of course, depending on the importance of private functions in rural development and on a particular government's philosophy toward private enterprise. But Uphoff and Esman found that private organizations provide credit, play an important role in marketing agricultural goods, supply physical inputs and farm equipment, contribute heavily to capital formation through resource mobilization and investment, own and operate the major transport and storage facilities on which farmers depend for marketing their crops, and control the distribution of commercial, professional and technical services, all of which are vital to the success of rural development.

The private sector also exerts substantial influence on policymaking and program implementation in rural areas through both legitimate and illegal activities. In Bangladesh, for instance, black markets reallocate inputs from government cooperatives and private organizations are the most direct sources of bribery and corruption. In other countries private firms and individuals lobby in the national policy councils, intervene in provincial and local government processes on their own behalf and in the interests of clients, and make formal and informal demands on government services and allocations through the market and personal networks of influence.<sup>29</sup>

There are a number of channels for decentralized administration of rural development functions--through central government, a combination of central and local government institutions, or cooperative government-private organizational arrangements. Program evaluations, however, most often recommend decentralization of administrative

functions through regional development authorities or through ministry field offices and provincial and local governments, with regional coordination by commissions or councils. Regions, as a base for decentralized administration and coordination, have several important advantages:<sup>30</sup>

1. Regional decentralization allows rural development plans and programs to be tailored to the particular needs of heterogeneous areas within a single country. Since regions differ widely in economic conditions, sociocultural traditions, natural resource endowments, physical characteristics and potential for development, regionalization of planning and administration permits consideration of unique areal characteristics;

2. Regions provide convenient units of analysis for disaggregating national development goals and targets for devising procedures and analytical techniques appropriate to each area's conditions and needs;

3. Decentralization of administrative functions to the regional level allows greater opportunity for participation in program planning and project implementation by local groups that will be affected by development activities;

4. Regional administrative units have potentially greater opportunities to test innovations and to experiment with new policies in specific areas without having to justify those activities for the country as a whole;

5. Regions provide a convenient geographical base for coordinating the activities of a wide variety of specialized ministerial programs and projects in an integrated manner;

6. Administrative regions provide logical units for collecting and analyzing data and information needed to plan and execute rural development programs;

7. A region is a suitable administrative area for monitoring, controlling and evaluating the effects of development projects and programs;

8. Regional administrative jurisdictions can be effective channels of communications between central government agencies and local governments and for mobilizing local political support for national development activities; and

9. Regions provide a convenient administrative structure for allocating government investment and operating resources to decrease inequities and spur the development of economically lagging areas.

It is sometimes argued that rural development functions should be delegated directly to local governments. Yet the evidence indicates that attempts to decentralize national planning and administrative functions to local government encounter serious problems. Local and district governments in most developing nations are too weak to assume complex responsibilities. Nearly all developing countries lack trained manpower available and willing to serve in local government positions. National ministry officials and provincial or state government administrators, in addition, are often reluctant to delegate real responsibility for planning and resource decision-making to local officials, and the diffidence on the part of local leaders in exercising decentralized authority, in proposing plans and programs or in seeking legitimate claims, often reinforces that reluctance. In many countries, moreover, local people simply do not trust the central government and their skepticism concerning the authenticity of decentralized power and responsibility, raises a barrier to cooperation. Attitudes of local officials often are not considered conducive to long-range planning and analysis: feelings of helplessness concerning their ability to solve local problems through deliberate action, an acceptance of "fate" rather than a belief in their ability to control their environment, and a disinterest in problems beyond those exerting immediate pressures or the boundaries of their local jurisdiction. Moreover, the scarcity of information and reliable records at the local level with which to formulate plans and programs or to allocate resources is compounded by the limited manpower within central ministries to provide the technical

assistance, guidance or close supervision of local administrative units needed to make decentralization work. Political conflicts at the local level and squabbles among contending factions over the allocation of government funds, often results in domination by local traditional elites who may be insensitive to the needs of rural people and unsympathetic to central government policies.<sup>31</sup>

In many developing nations, regional decentralization is preferable to local devolution, both as a long-range means of coordinating central government activities at the subnational level and as an intermediate step in building the institutional capacity of local governments. Regional administration, however, is also complex and experience with regional development reveals as many failures as successes. To be effective, regional development agencies must be supported by an expansion of regional information collection and analysis capabilities, strong political commitment from the national government, a large measure of autonomy and flexibility to respond to unique regional problems, and ensured allocations of budgetary resources. In addition, such agencies must have well-trained and highly motivated staff capable of dealing with local officials and farmers, and of coordinating the work of operating ministries within the region.

Ultimately, governments in developing nations must be able to balance centralization with decentralization in the administration of rural development programs. The linkages and interactions needed to implement integrated rural development strategies must be created and strengthened over time, as Uphoff and Esmàn argue, through increasing specialization, with public and private, national and local government organizations each permitted to perform those functions in which they have comparative advantages. "Decentralization is not an all-or-nothing proposition but rather a matter of kinds and degrees," they argue. "Put more generally, decentralization is best seen and implemented in terms of specific functions. Different rural development tasks are better handled at higher or at lower levels of decision-making, separately or in



combination with other tasks."<sup>32</sup>

### National Policy Support

Experience with rural development programs and projects over the past decade also clearly demonstrates that a single program or even a portfolio of projects aimed at ameliorating problems of poverty and inequity alone will have little effect. Success depends on the ability of the national government to orient, clearly and deliberately, all of its major policies toward the goal of growth with equity, considering the impact of each policy on rural productivity, income distribution, and human welfare, and on the linkages between urban and rural sectors. National economic, social, technical and financial policies must provide direct and continuous support for the goals of rural development in order for individual programs and projects to bring about the structural change needed to attain those goals. The International Labour Organization's studies of Colombia, Kenya and the Philippines unequivocally show that a delicate balance must be struck in national policymaking between the goals of growth in GNP and those of attaining greater equity in distributing, socially and spatially, the benefits of that growth.<sup>33</sup>

Among national policies needed to support the new strategies of integrated rural development are:

1. Land reform measures that promote an equitable distribution of land ownership, with opportunities for rural workers to acquire enough land to support their families and to produce agricultural surpluses, while generally ensuring that individual landholdings are of an appropriate size to increase agricultural productivity;

2. Investment incentives to promote small- and intermediate-size industry, crafts and cottage industries, labor intensive manufacturing and processing in rural areas in order to absorb labor, while at the same time assisting those large industries that produce the intermediate

and capital goods forming the economic bases of most larger cities;

3. Noninflationary wage policies that encourage and protect labor-intensive industries while assuring an adequate level of income for individual workers to meet their basic consumption needs to maintain the consumption levels of lower-income groups threatened by inflation and to offer a reasonable opportunity for the lowest income groups to raise their overall standards of living;

4. Price supports for essential agricultural commodities that provide incentives for individual farmers to increase agricultural output, to experiment with new methods and techniques, to adapt improved practices and higher yielding seed varieties without fear of catastrophic losses in income owing to drastic price fluctuations;

5. A progressive and equitable tax policy that allows reasonable levels of earned profits without concentrating wealth in the hands of a small minority of the population, and encourages redistribution of wealth in order to provide opportunities for advancement among the poorest elements of society without discouraging entrepreneurship among middle-income groups. Non-essential imported luxuries should be taxed at higher rates and lower rates levied on essential consumption and production goods. Tax policies should not distort production decisions in favor of capital-intensive methods;

6. A strong family planning policy that seeks to reduce birth rates below potential rates of growth in production; and,

7. A public works and social services investment policy that provides basic levels of health, educational and other services appropriate for rural and urban populations and that ensures adequate physical infrastructure to encourage and facilitate, rural production. Public works programs should hire seasonally unemployed agricultural workers, and encourage services and facilities to locate so as to build linkages between urban and rural centers and provide access to services and facilities to the largest possible number of rural people.

Without a strong set of national supporting policies for achieving social and economic structural change, the vast investment of scarce national resources and of international assistance funds in integrated rural development programs cannot effectively achieve growth with equity.

#### INTERNATIONAL ECONOMIC POLICY AND FOREIGN ASSISTANCE

The final set of national inputs necessary for integrated rural development are effective international economic and trade policies and international financial and technical assistance in support of rural development. Both shape the environment for implementing rural development programs.

##### International Economic and Trade Policy

Rural development is not entirely a national problem. Many factors reinforcing and perpetuating rural poverty stem from current patterns of international investment and trade, and the solution to national rural problems will be found in part by changing adverse international economic policies. Adverse terms of international trade and ineffective international economic policies frequently undermine domestic efforts to promote integrated rural development and to build an articulated spatial system linking together urban and rural places in a national economy.

Although detailed analysis is beyond the scope of this study, international economic and trade policies are important components of integrated rural development strategy. Among the actions that need to be evaluated by national governments are:

1. Establishing and maintaining an appropriate currency exchange rate that both dampens domestic inflation and makes exports of

agricultural and small-scale rural industrial goods competitive in the world market;

2. Modifying import restrictions and tariff rates to protect vital labor-intensive industries serving domestic markets in their start-up period, while allowing export industries to obtain, at competitive prices, the necessary raw materials to produce exported finished products;

3. Creating a favorable foreign investment climate that encourages international corporations to participate in joint ventures with local firms on a mutual benefit basis, and which through labor intensive production expands jobs for local labor and managerial personnel, increases local technological and administrative capacity and broadens local labor skills to produce goods and services for export and domestic markets.

4. Expanding export promotion programs to widen foreign markets for new domestic goods and commodities produced in rural areas and in small and intermediate-size towns.

5. Avoiding import substitution policies that protect high-cost, capital intensive industries, which commonly intensify income disparities. Governments must promote those investments that make intensive use of rural labor.

#### International Assistance

Foreign aid, often a major source of financial and technical support for integrated rural development, is also a nationally managed input essential to successfully implementing strategy. How national governments use foreign assistance, and the willingness of donor agencies to be flexible and innovative in providing support, are critical issues in putting the new development strategies into operation. As the International Labour Office notes, ". . . foreign assistance from the purely quantitative point of view can be used either to assist in the structural change a

country may have decided on, or to help a country to continue somewhat longer on an outworn traditional path."<sup>34</sup> But unfortunately, traditional lending policies have served to reinforce, rather than change, the trends that have led developing nations to their current situations. Much of the international lending to developing countries is characterized by the same features that have marked aid to Kenya: "There has been a strong tendency to concentrate on clearly defined and fairly large projects with high 'inaugurability,' considerable central urban bias, limited concern for distributional and social effects, and preference for little or no local cost financing," the ILO observes. "Many donors have successfully tried to promote their own exporters and contractors, the consultant device sometimes being a means to this end. Little thought has been given to technological aspects, innovatory features and consequently effects on employment."<sup>35</sup>

International assistance, as a supporting input for integrated rural development, must be modified to promote and encourage national governments to undertake policy reforms leading to structural changes in the economy. International assistance agencies following a more innovative and flexible approach could, for instance, provide large, short-term infusions of financial assistance ("ballooning" of aid) to countries undertaking major rural policy reforms that would mitigate the possible short-term adversities involved in change.<sup>36</sup> Aid could be used, as the ILO suggests for the Philippines, to help countries with severe current or potential food problems to build up "buffer stocks" of basic commodities and essential staples to prevent future crises and to relieve pressures on foreign exchange reserves during years with poor agricultural yields. The domestic funds saved by not having to import essential staples could be used to provide continuity in financing ongoing rural development reforms, especially in countries not self-sufficient in production and where budgetary stability is critical to the existence of fledgling rural projects and programs.<sup>37</sup> Donors must evaluate those procedures which operate against their own and the developing countries' growth-with-equity strategy. Again, the

ILO argues that "just as it is necessary to narrow the gap between rhetoric and reality in terms of what governments say to their own people, so it is necessary to narrow the gap between what donor agencies say and what they do." This involves "the gradual elimination of the preferred "import content of projects only" policy of major donors; it involves willingness to engage in local cost financing, in program lending where possible, or at least in sector lending on a project bundle basis, among others; it also involves increased willingness to untie aid, to permit local consultants to engage in feasibility studies and to review the contract and tender procedures to force full consideration of alternative technology choices."<sup>38</sup>

Since many of the programs and projects undertaken as part of an integrated rural development strategy are experimental, risky and complex, they require soft loans and grants in their initial stages. Increased use of concessional lending by major assistance agencies would greatly encourage developing nations to undertake more innovative rural development projects, and contribute to the relief of growing debt service burdens in the poorest Third World countries. Finally, if integrated rural development strategies are to succeed, international aid must be deliberately focused on those technical inputs and local support components that can effectively increase agricultural productivity, distribute income and wealth more evenly and build the spatial structure in developing nations.

FOOTNOTES

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## CHAPTER FOUR

### TECHNICAL COMPONENTS OF RURAL DEVELOPMENT

With a solid base of national political, administrative, budgetary and organizational support, a second problem in implementing integrated development policy is to identify the technical inputs needed for rural development, to determine which services and functions must be delivered to rural areas to achieve growth with equity. Again, the literature offers a vast array of possibilities, but the following inputs are considered fundamental to any program of economic and social transformation: marketing, credit and financial institutions, extension and training services, cooperative arrangements, nonformal education, land improvement and resettlement, rural energy sources, appropriate technology and rural industrialization. These elements of rural structure must be created through government intervention or strengthened by public incentives and regulation of private organizations.

#### MARKETING ARRANGEMENTS

Deficiencies in marketing structure are a serious bottleneck to increased agricultural productivity in nearly every developing country. Marketing problems appear in long settled areas and on the pioneer fringe, in planned land colonization projects and in areas of "spontaneous settlement." Yet governments have paid only sporadic attention to rural marketing problems.

To increase productivity, farmers must be able to convert increased production to cash quickly, for without greater income they cannot save, invest in new technologies or acquire other inputs needed to expand output. And to obtain cash for their crops, farmers depend on access to a relatively free competitive market system to provide fair prices for their goods. In most developing countries, however, free market

operations are unlikely to evolve spontaneously; rather in isolated rural areas, owners of storage and processing facilities, trucker-buyers, commission agents, market intermediaries, and merchants who extend credit, purchase most of the crops.<sup>1</sup> "In general," as Nelson notes, "this situation is characterized by a few market elements that create a monopsonistic situation in which such elements are integrated with production and consumer credit and trucking services and [where producers] have difficulty in organizing themselves."<sup>2</sup>

Rural development literature reveals a wide variety of marketing problems obstructing higher agricultural output and the commercialization of farming in developing countries. Among the most important are difficulties of access, lack of adequate organization, the small-scale of agricultural production, and structural problems.

Many small-scale farmers in economically lagging regions can market their products only with great difficulty. Physical limitations sometimes prove insurmountable: the few existing rural highways are usually hazardous and poorly maintained; bridges washed out by torrential rains may not be rebuilt for months; and commodities that do not reach market spoil quickly. Some producers are far removed from even rudimentary roads, and if they do make the long and arduous trip to market they are sometimes forced to sell their goods at a loss.<sup>3</sup> Physical difficulties are compounded by lack of information. If market prices were available, the small-scale farmer could better assess the worth of undertaking an arduous marketing trip, or could choose to store his produce in anticipation of better returns at a later time. Inadequate and unreliable market information reduces his bargaining power, and ultimately, the prices he receives for his products.<sup>4</sup> Research in Ethiopia shows that the flow of price information is closely related to distance from market, and to the nature of the crop, with price information on commercial products disseminating more widely. Access problems are exacerbated by high freight rates, often inflated by low back-haul ratios, and the shortage of rural

entrepreneurs, who migrate to towns or cities, where their talents will bring higher returns. Thus in many remote areas, farmers often respond to market access difficulties by producing only low-bulk, high-value commodities, particularly those that can be conveniently stored for relatively long periods without spoiling.

Lacking competitive markets, small farmers act on inadequate information and are exploited by middlemen or brokers. They are often forced to sell most of their commodities immediately after harvesting in order to pay loans, taxes and meet other obligations. Frequently, the small-scale farmer must harvest a small portion of his crop, sell it for whatever price he can obtain, and only then hire laborers to bring in the remainder. Consequently, farmers are forced to sell at depressed prices in a period of plenty, and without cooperative or other organizational alternatives to protect their interests, never save enough to invest in more productive technology. Government policies commonly reinforce this cycle of penury. Even most official credit loans must be repaid after harvest with fixed-price sales. The operation of publicly sponsored organizations, particularly commodity marketing boards, often inhibits market expansion, since most boards deal only in export commodities and with commercial operations located near large cities. They generally display marked aversion to dealing with scattered producers from remote regions.

The development of modern marketing structures is also inhibited by traditional agriculture's low volume of production and the lack of product standardization, making it increasingly difficult to meet export quality standards. In Ethiopia, for example, where grain is spread on the ground and threshed by running oxen over it, foreign matter sometimes comprises as much as 25 percent of actual grain weight.<sup>5</sup> Modern marketing arrangements are also constrained by the failure of most small-scale farmers to use modern grades and standards and by the problem of enforcing the use of correct weights.<sup>6</sup> Teclé notes that the average illiterate Ethiopian farmer can lose as much

as \$4.00 per quintal by either false weighing or incorrect calculation of product value.<sup>7</sup> Finally, even existing marketing structures in rural areas are highly prejudicial to the small producer. Problems of access, the nature of his product, lack of storage, inadequacy of other supporting organizations and weak government regulation of the market, lock the "little man" into a vicious cycle of poverty and inequity.

For all of those reasons, marketing has attracted greater attention in the new rural development strategies. But because of complex relationships between traditional and modern institutions and between local community problems and the broader economic policy questions, even the best designed plans often go awry. Lele warns that precipitous price declines may accompany a technological revolution where production surpluses have to be marketed locally--because of "market fragmentation" resulting from lack of transportation, communication and storage facilities in central places.<sup>8</sup> Elaborate market development plans often fail to achieve desired results because they are beyond local administrative capacity and do not take advantage of informal structures already in place.

Despite such difficulties, government intervention can both assist in establishing small-scale producers' organizations and in regulating marketing practices. Intervention is needed to promote additional marketing enterprises, especially in urban areas, perhaps taking the form of state purchasing organizations. Additional credit must be granted to producer cooperatives or private industrial and commercial interests to increase the number and competitiveness of outlets for agricultural goods in rural areas. Government purchasing contracts and tax concessions, together with location of services to attract businesses to marketing towns in rural areas, can contribute to expanding the consumer market for agricultural produce. Small-scale farmers usually gain the most where both credit and alternative markets are available. Marketing has large multiplier potentials and deserves a place in most rural development plans, for as Lele concisely

states, "there appears to be a wide scope for adopting a pluralistic approach in the development of marketing institutions . . . to increase efficiency through competition between formal and informal channels."<sup>9</sup>

#### AGRICULTURAL CREDIT

For most small- and medium-scale farmers credit is absolutely necessary if they are to increase output and productivity. Yet, the great mass of farmers in developing nations must operate without it. Most farmers are unable to avail themselves of existing services even where government agencies provide credit or where they extend it as part of a larger development program. Low income and the lack of collateral excludes poor farmers from obtaining bank loans, forcing them to depend on such traditional sources as moneylenders, merchants, brokers and landlords.<sup>10</sup>

But the problem in most developing nations is that rural people become tied to these traditional sources in a vicious cycle of debt from which it is virtually impossible to escape. They borrow against ensuing harvests, but low productivity permits little capital accumulation, thus forcing them back to the moneylender to borrow again for the next planting.

There are compelling social and insitutional reasons for the small-scale farmers continued use of traditional sources of credit: he needs to pay for weddings, funerals, baptisms and the like; and, perhaps more important, he has learned from experience not to trust the government and official institutions. In most developing countries, credit programs are administered by government or by publicly controlled institutions, which, in almost all cases, insist on tangible assets as security. Hence, credit is usually extended only to those who least need it, which in part, reinforces the position of traditional moneylenders who can profit from bureaucratic red tape and unnecessary

complications, and from the inability of government to render assistance when it is needed. To escape from this inevitable chain of events credit reforms are needed to ensure that productivity increases lead to the accumulation of enough capital to finance agricultural inputs and qualify farmers for commercial loans.

Although new sources of credit are urgently needed in developing nations, commercial credit provided without technical assistance, cooperatives and marketing facilities, usually fails to increase small farm production, and favors large-scale commercial farmers who are good banking risks. Credit extended without complementary inputs is static, generating little or no permanent increases in output at the end of the borrowing period. Rural development projects must make provision for dynamic credit which leaves the farmer with increased assets, productive power and income, and, which the FAO contends, will lead to "a gradual change in internal economic structure of the farm, by providing it with the fixed and/or semifixed means of production necessary to enhance the efficiency of labor and to change traditional, primitive farming practices."<sup>11</sup> But increasing the quantity of credit alone will not break the cycle of rural poverty. "Credit must be so designed as to give a strong positive inducement to the improvement of farm techniques, institutions and organizations and it must be supported by, and closely linked with, such related services as cooperatives, agricultural extension, marketing and agrarian reform programs."<sup>12</sup> Cooperatives can play a crucial role by combining credit, farm supply and marketing facilities, and such programs are generally more sound when they incorporate group repayment schemes.<sup>13</sup>

Experience with agricultural credit programs in developing countries, thus suggests that it cannot function effectively divorced from other rural development inputs. Credit does not create new resources, it is simply one important element of an integrated approach which should also include advisory services, marketing, land reform, and cooperatives, to redistribute resources more equitably. Since under

most conditions agriculture does not compete well with other sectors of the economy in securing funds, a greater emphasis should be placed on encouraging saving among rural populations to finance their own development. Where rural credit institutions are created they should be "public service instruments" sponsored by government to increase agricultural productivity rather than as banking enterprises. Government should also be responsible for organizing related inputs, providing regular training for credit and cooperative personnel, and establishing a research function to evaluate and redirect credit policy. Improvements in services and organization are invariably more helpful to farmers than subsidized interest rates. Farmers benefit most directly when credit can be provided to them, especially in remote rural areas, rather than waiting for them to come to credit institutions for help.<sup>14</sup>

#### FINANCIAL INSTITUTIONS

Saving and investment are essential for promoting economic growth, and the expansion of financial institutions is crucial to generating savings and investment in rural areas. But as with other inputs, the financial system cannot be considered in isolation. Small-scale farmers in developing nations face three major financial problems: the lack of secure means of saving, adverse effects of "shallow finance," and economic fragmentation in rural areas.

In most developing nations, farmers operating low-yield holdings could increase output by investing in such modern inputs as improved varieties of seeds, chemical fertilizers, pesticides, herbicides and farm machinery. But locally available resources are not enough for such investment, and financial institutions, geared mostly to industrial and commercial lending, find it uneconomical to lend to small farmers. Potential savings, available at attractive rates, do exist in rural areas, but the saver " . . . lacks information about investment opportunities," as Lehr and Horvitz point out, "just as



the farmer lacks information about the availability and location of credit."<sup>15</sup> Even so, savers would probably be unwilling to risk their funds by making loans directly to some farmers. Indeed, small farmers usually prefer to keep their savings either as currency or bank deposits, or in the form of perishable farm commodities, which can quickly diminish in value because of inadequate storage facilities and market price fluctuations. A properly organized rural financial system could mediate between saver, by providing a secure means of savings at attractive interest rates, and the small-scale farmer who needs relatively inexpensive credit. Although they charge the farmer higher rates than government lending agencies give to prime customers, the rates of financial institutions for small farmers are much less than those charged by traditional moneylenders.

Rural development is also inhibited by economic fragmentation. "The economy is 'fragmented' in the sense that firms and households are so isolated that they face different effective prices for land, labor, capital, and produced commodities, and do not have access to the same technologies." As McKinnon points out, "authorities then cannot presume that socially profitable investment opportunities will be taken up by the private sector . . . at least not for large segments of the population. One manifestation is . . . continuing mechanization on farms and in factories in the presence of heavy rural and urban unemployment . . . . In rural areas, tiny landholdings may be split up into small noncontiguous parcels, with inadequate incentives for agricultural land improvements."<sup>16</sup> So-called "indivisibilities" or "discontinuities" give rise to fragmentation, for example, when a small-scale farmer does not have the wherewithal to invest in a complete "package" of modern inputs such as the seeds, fertilizers, herbicides and machines, required by high yield varieties. Since much investment in less developed countries is self-financed, with farmers or small businessmen saving from their own incomes, McKinnon observes that "the farmer can provide his own saving to increase the amount of fertilizer he is now using, but finds it virtually impossible to

finance, from his current savings, the whole of the balanced investment needed to adopt a new technology." Financing a new technology usually requires the assistance of modern rural financial institutions.

An efficiently operated rural financial system can go far toward overcoming the problem of fragmentation, but few developing countries permit free operation of financial activities and rarely are financial institutions found in rural hinterlands.<sup>17</sup> Moreover, as Lehr and Horvitz point out, "government deficits frequently preempt the limited lending resources of the banking system and financing of the rest of the economy tends to be met from the meager resources of moneylenders and pawnbrokers."<sup>18</sup> Policy generally discourages the intermediary role of financial institutions, resulting in "financial repression" of rural areas.

Savings can be increased in rural areas when financial intermediaries provide greater safety, higher yield and liquidity than would be obtained by a saver lending directly to a borrower. When interest rates are significantly increased, for example, the level of rural savings has been shown to increase correspondingly. This was demonstrated in Taiwan and Korea, where studies show considerable voluntary savings when financial services and facilities were made available in rural areas.<sup>19</sup> "There is adequate evidence," Lehr and Horvitz conclude, "that some of the rural development problems that characterize less developed countries can be assisted by giving greater scope to the operations of financial institutions."<sup>20</sup> Their activities must be liberalized and interest rate restrictions must be lifted.

Although plans for financial development must be adapted to local conditions, certain institutions--commercial banks, savings and loan associations, credit unions, pension funds, investment companies, and brokerage houses--will be needed in nearly every developing country. Financial development policies for rural areas should include

- 1) mechanisms for collecting basic information on the state of the

financial system, including types of existing government and private financial institutions, the sectors they serve, the geographical distribution of institutions, and their profitability; 2) policies to control inflation--the experience in Taiwan, Korea and the Philippines shows that inflation control measures have, as a side effect, encouraged personal savings; 3) wider distribution of financial intermediaries in rural areas--branch offices or mobile facilities reasonably convenient to rural populations, especially in villages on market days, can increase saving; 4) creation of rural financial institutions that offer secure financial instruments consistent with the savers' preferences; and 5) organization of rural insurance schemes--such as crop insurance--that contribute to the credit worthiness of small farmers.<sup>21</sup>

#### EXTENSION SERVICES AND TRAINING PROGRAMS

Agricultural extension education is almost universally a part of rural development projects, for it is imperative that small- and medium-scale farmers have access to new agricultural technology and the skills to apply it, in order to increase agricultural productivity. The objective of extension education is to transmit this technical knowledge in a systematic manner, and to improve rural living conditions by training housewives and youth in a variety of household and vocational skills.

##### Agricultural Extension Programs

Local extension services are usually operated by trained cadres of "extension agents," supported by higher-echelon specialists, and often by a university agricultural school or research stations capable of devising new solutions to rural problems. The degree of cooperation between extension services and other rural agencies varies widely among countries.

A well-designed and operated extension system should combine, transform, and disseminate information. Modifications are made on the basis of feedback from users. Extension systems should combine information about markets and opportunities, data on farmers' needs and desires and research recommendations with information on policy objectives for agricultural development. Information is transformed and disseminated by translating it into the language of the local farmer and by building on his existing knowledge through mass media, pamphlets, brochures, posters, formal meetings and demonstrations.

In most countries, however, agricultural extension programs face enormous operational problems, which can be traced to institutional, organizational, educational, and communication difficulties caused by inadequate interpersonal communication. Unfortunately, most extension services seek solutions to their problems by intensifying service, increasing the agent-to-farmer ratio. Quantitative rather than qualitative change is erroneously seen as the solution. But the number of extension agents per unit area is less important than individual performance. Moreover, because of enormous expense, most programs could neither be replicated nor intensified enough to reach a majority of the rural population. To replicate the Kenyan small holder tea development program, for example, now costing about \$18 per farmer, to cover the entire nation would cost some \$38 million, more than the total expenditure in the whole agricultural sector in the late 1960s.

Many of the problems of diffusing innovation in developing nations, moreover, relate directly to deficiencies in extension education. Most commonly encountered problems are: the attitudes and behavior of the extension agent, the nature of the agents job, lack of local social and cultural information, failure to understand local agricultural systems, and errors in program design. Agent's sense of elitism causes recurrent problems in relations with local people. This was clearly observed in the Cameroon, where it is suggested that extension workers' salaries be reduced so that their living standards do not

differ substantially from those of the average farmer.<sup>22</sup> A similar problem was noted in Venezuela. "Galling to the peasants is their perception of the agents' sense of superiority and maintenance of social distance. The islanders are always spoken to with the familiar 'tú' whereas the agents insist on being addressed as 'doctor.' The perception is reinforced because the agents never leave their jeeps to visit the houses but instead beckon members of the household to their car," Chesterfield and Ruddle observe. "They seldom show any of the normal Venezuelan signs of friendship such as an abrazo or the slapping of arms. The seemingly foppish cleaning of town shoes with a paper handkerchief to remove the mere suggestion of mud and the taking of fruit without asking are other perceived manifestations of the extension agents' sense of superiority."<sup>23</sup>

Other problems arise from the urban backgrounds of most extension agents, and their lack of identification with the rural communities to which they are assigned. In many cases, agents refuse to live in rural areas, preferring to travel--as infrequently as possible--from the nearest town to the field site. In Tanzania where agents live as well as work in close contact with farmers the rate of adoption of innovations and agricultural production increases significantly.

But perhaps the biggest block to successful diffusion of innovation is the extension agents' lack of understanding of traditional human ecosystems, and their frequent contempt for time-honored ways of using renewable natural resources, which are often sophisticated systems for managing available resources and technologies. Freire argues that inherent in the concept of extension is an element of colonization or cultural invasion. In other words, extension generally aims at a total replacement of a time-honored system, the parameters of which are fully understood by cultivators, with one that is considered to be "modern" or "better."<sup>24</sup> Thus, despite the aspirations of those involved in extension work, many projects are doomed to failure given the change agent's a priori attitude that traditional agricultural

systems are inefficient, maladaptive, and unsophisticated.

Extension problems are compounded, moreover, by widespread dissatisfaction among agents. Staffs often complain of low pay, slight chance of promotion--which is not generally geared to performance--poor working conditions and inept program administration. Poor morale generally has an adverse impact on the agents' relationships with farmers and their ability to secure local support for programs. Agents are generally too swamped with a miscellany of unrelated time-consuming tasks to pay proper attention to their extension job. This may well account for the superficiality of many preextension work surveys and lead to the misidentification of opinion-leaders, for example, and to the faulty analysis of human ecosystems.

Many extension agents spend little time in the field because of heavy workloads, logistical problems, or perhaps simply disinclination. They prefer to work through intermediaries, opinion leaders, who they feel will have more success in reaching the entire community than would outsiders like themselves. Extension agents usually concentrate on the most vocal and visible elements of the local populace. But, in many cases these people are not regarded by other members of their community as opinion leaders.

Attempts to solve the problems of extension services by simply intensifying inputs are futile, however, in the absence of complementary efforts to: 1) make innovations profitable to the small-scale adopter; 2) equip extension agents to solve a range of specific field problems; 3) devise an incentive system to stimulate extension workers; 4) organize complementary institutions to handle complementary inputs such as credit, so that extension agents can confine themselves to teaching; and 5) develop strong user population support for extension programs.

Design of an ideal rural extension system, however, is extremely

complicated. As Lele notes, variability in inter-institutional arrangements, climatic and soil differences, and social and cultural conditions in local communities "may often be far more important in explaining yield differences than is the effectiveness of any particular intervention, including extension."<sup>25</sup> Given the great variety of extension programs and the diversity of technologies which they seek to introduce, it is virtually impossible to compare the impacts of the programs.

Close involvement of rural people in extension program design and implementation appears to be essential for success. Salient features of such an approach are clearly visible in the French technical assistance programs in the Cameroon, the application of which may prove useful in designing projects in other countries. In the Cameroon, agents and farmers discuss local needs and problems in advance of technical assistance. The discussions, if properly conducted, allow farmers to perceive their individual problems as community concerns best handled by community action, and make farmers feel self-reliant, thus creating a more equitable relationship between farmer and extension agent. Later, actual demonstrations accompany group meetings, and research application centers for permanent demonstration are established. If genuine desire for change is aroused, then selected volunteers try out innovations, and innovators determine successes and failures through self-evaluation. Constraints are identified and steps outlined to eradicate them. At this stage the extension agent is consulted as an advisor and successful innovators are trained to take over the role of advisor for other groups who will test the innovation later.

### Training Programs

Rural education is usually considered an important vehicle for introducing change in developing countries. But rural primary schools are few, and even in areas where they exist, do not generally deal with agricultural problems. Rural training programs and out-of-school

education are also largely unsuccessful in providing agricultural education. Rural development is not likely to be self-sustaining, however, without a range of diverse yet related training programs to complement other project inputs. Training can be a mechanism for involving local people in the development process, and for creating modern institutions. But to be effective, training programs must sensitize people to the needs of rural development, create a receptive local atmosphere; improve the technical and administrative performance of field staff and upper echelon administrative staff; and improve coordination to make implementation more effective.<sup>26</sup>

Training programs in rural development projects can take a number of forms aimed at a variety of groups within rural areas: participant training, functional literacy, vocational, general skills, and women's training, as well as training for farmers and for trainers.

1. Participant Training Programs. Although "popular participation" is a goal of most rural development projects, it is rarely achieved. Projects calling for "client population" involvement in planning and assessing local needs, often emphasize that such participation can develop the self-reliance needed for accelerated rural development. But when projects are implemented local participation often falls by the wayside or, at most, is limited to token activities. As Lele notes from her survey of African cases, even "the most ambitious efforts to foster popular involvement can be thwarted by subtle forms of paternalism."<sup>27</sup> Even in the ujamaa scheme of Tanzania, where local participation is espoused "as an important objective of rural development and where political education in mass participation is a key element of the development strategy," genuine grass-roots participation has not evolved.<sup>28</sup> In the Kenyan Special Rural Development Program participation has been limited to self-help schemes, such as building cattle dips, and even that has not been particularly successful. Observations of the Kenyan Program and that of the Venezuelan Corporación Venezolana de Guayana project in the Orinoco Delta, among others indicate



that in most instances people are not even informed of projects that are to be implemented in their areas,<sup>29</sup> and if they are, it is generally perfunctorily, through either formal public meetings, or notices, bulletins, or via mass media communications. When local populations actually meet with employees of the development authority communications are generally one way (from top down) with few questions permitted and little evidence of willingness to modify approved plans in the light of local conditions.<sup>30</sup>

2. Functional Literacy Programs. Rural development, to be self-sustaining, requires that at least some adult members of a community to be functionally literate. The inability of illiterate farmers to defend their interests at market or to keep accurate records, is a cause of many agricultural development project failures. Although illiteracy is a major constraint on rural development, relatively few development projects include adult literacy programs. Where they have been included, however, they contribute substantially to increasing communications and understanding of both development problems and project objectives.

Imaginative variants of this idea, which convey the rudiments of numeracy and standard symbols but make no attempt to teach people to read, involve the use of traditional village theaters. In Niger, for example, village theatrical techniques were used to induce farmers to act out and repeatedly rehearse marketing scenes and encounters with credit agents, such that when the real situation arose, they avoided being duped.<sup>31</sup> Clearly, the traditional theater has wide application to the transmission of development messages, as evidenced by its widespread use in the People's Republic of China and the social commentary written into many rural dramas in Indonesia.

3. Non-agricultural Vocational Training. In most rural regions with high seasonal unemployment and underemployment, properly designed training programs teaching nonagricultural skills could contribute

greatly to the reduction of joblessness. The range of new skills needed in rural areas include those for workers in agro-industries, for routine maintenance of physical infrastructure such as roads, construction work, and machinery and equipment repair. Other programs should seek to upgrade such traditional skills as carpentry and blacksmithing to make them more relevant to the demands of a modernizing region.

Programs based on upgrading traditional skills appear to be more successful than those teaching new ones, since they build on the familiarity with traditional tools and materials and show a greater comprehension of how modest, sequential, and additive improvements to time-honored ways contribute to development. The program in Mali run by the Compagnie Française pour le Développement des Fibres et Textiles, which trained local blacksmiths to repair multi-cultivators, plows, and other modern agricultural implements, and later to manufacture simple spare parts for them, was so successful that some smiths bought welding equipment and began to repair bicycles and motorcycles.<sup>32</sup>

4. General Skills for Rural Development: The main thrust of rural training activities is on skills related to agriculture and social services. In many instances these relate specifically to training extension demonstrators (e.g., Wolamo Agricultural Development Unit, Ethiopia; Escuela de Demonstradores del Hogar, Venezuela) or to training model farmers (Chilalo Agricultural Development Unit, Ethiopia).

5. Women's Training Programs: In almost all developing countries programs aimed at preparing rural women to participate in development focus on child welfare, nutrition, meal preparation, home economics, hygiene, dooryard gardening, domestic fowl and sometimes handicraft production. In most instances, however, women's programs, are biased by foreign curriculum developers: "All too frequently," laments Lele, "women's training programs also seem to miss the important point that

the traditional roles of an African woman has often been quite different than in the West." African women, she continues, "have constituted an important portion of the productive rural labor force; yet their participation in agricultural training programs has been very limited."<sup>33</sup> Typical is the experience of the Chewa, in the Lilongwe area of Malawi, where women comprise 30 percent of the region's farm managers; and yet are virtually ignored in the agricultural development program," despite the fact that Chewa women generally interact freely with men in all major rural activities and play an important role in decision-making."<sup>34</sup> Clearly, greater involvement of African women could increase the impact of rural development projects.

6. Training Programs for Farmers. Most agricultural extension programs incorporate training in improved agricultural practices and skills. Through farmer training sessions it is thought that improved practices will spread from chosen leaders to other farmers in the vicinity. But for a host of reasons the logic often fails--generally because of poor leader selection.

7. Training for Trainers. "Client population" training can only be successful, if those who train local rural populations are technically competent, understand local human ecosystems, in which "client populations" live, can translate technical knowledge into locally acceptable terms, and have the ability to communicate with traditional, rural people. Once again, the litany of trainer defects is repetitiously familiar regardless of the differences in culture. Malian extension staff are taken to task for their "paucity of technical knowledge . . . often compounded by their ignorance of the rural social structure and by their poor ability to communicate effectively with rural people. The staff that was in direct contact with the people lacked sociological and pedagogical training."<sup>35</sup> Strikingly similar responses are reported for Venezuela.<sup>36</sup>

An effective training program 1) provides or improves skills that cater

to the fundamental needs of rural people, and which build on those already familiar; 2) addresses the needs of all clients--adult males and females, out-of-school-youth, and children; 3) is flexible in design, building on the inherent advantages of formal, nonformal and informal education and which can be readily adapted to function in a wide range of circumstances; 4) coordinates various public and private bodies involved; and 5) uses teachers who are able to communicate with local populations and who are willing to incorporate locals into the system as more than just students.

#### COOPERATIVES

The need to build organizational structure at the village level, in order to mobilize resources, coordinate inputs, and permit local populations to participate in planning and decision-making is a recurrent theme of rural development studies. Rural people must not only understand and sympathize with plans and play a large role in their implementation, but also see direct economic and social benefits in undertaking activities that will lead to rural transformation. Cooperatives enable small- and medium-scale farmers with similar needs and resources to join together to rationalize and expedite the input of modern factors and to market agricultural produce. Their range is wide; from multi-purpose cooperatives designed to handle inputs, products, and seeds or fertilizers to those that market a single commercial crop. In some areas cooperatives supply credit or perform simple banking functions. In Africa, colonial and national governments, international agencies, bilateral development programs, churches, political parties, and non-governmental organizations have formed cooperatives; in some Asian nations (Sri Lanka, Iran, and Pakistan) they are primarily the creations of government. North African cooperatives are predominantly associated with land reform programs; and those in West Africa with export crops. In Central Africa they play only a minor role in rural development, whereas in East Africa they pursue

social as well as economic development objectives. Latin American cooperatives form part of broader land development and reform programs. Some Asian cooperatives play specific roles in development, such as the relief of population pressure in Sri Lanka, and as channels for disbursing government funds to increase food production and agricultural productivity in Iran. Organizational structures are equally diverse. In Venezuela, Ecuador, and Colombia many cooperatives are based on individual hamlets, a neighborhood group, or a village. African cooperatives are often based on the village, and those in Asia on groups of villages.

Many developing countries' cooperatives are regarded as the most effective means of mobilizing resources and eliciting local participation. Although local institutions embrace a wide variety of organizations--farmers' associations, peasant unions or syndicates--the cooperative is the most widely encountered.

Several facets of local social structure impinge directly on the ability of cooperatives to introduce self-sustaining change. They thrive where decisions are made internally, but where external control is strong, they easily become instruments of outside forces. Sharp or rigid inequalities of wealth, power, and status within a community are not conducive to the development of cooperatives; nor, on the other hand, is an atmosphere of equality hostile to leadership and discipline. Social solidarity--a collective communal resolve to work toward development--has a major impact on cooperative development. Finally, cooperative organization must be attuned to the structural differentiation within a community, a single cooperative will not work in highly differentiated areas. Instead it may be more feasible in such areas to introduce cooperatives based on group rather than community interest.

Although, theoretically, membership should be wholly voluntary, in reality farmers are often pressured or induced into joining cooperatives.

They may be induced by the prospect of receiving credit; pressured where cooperatives are monopolistic by the prospect of losing access to supplies or markets by not joining; obliged to join in order to receive land under a settlement or reform program; or denounced as heretical by refusing to join a church-sponsored scheme in Latin America. State-run schemes often require membership.

Little progress has been made toward achieving an egalitarian membership and an even distribution of benefits. Few organizations cater to the needs of the landless, instead they usually benefit large- and medium-scale farmers thereby reinforcing the status quo. More prosperous farmers tend to exert a preponderant influence over cooperative administration, and to capture credit resources since they are usually the only members who meet bank requirements for obtaining loans. Rural elites can easily subvert the aims of the cooperatives for their own ends, and so short-circuit the rural development process. Common in Latin America is for one key individual to assume leadership and to gradually take over the local mantle of patronage and paternalism, distorting the cooperative to his own purposes. In Africa the real leadership decisions tend to be made by government agencies, serious abuse and mismanagement are rampant and members participate only marginally in decision-making. In Asia cooperative leadership often devolves on the relatively educated who have had work experience outside their village.

Certain traits characterize successful rural cooperatives, however, particularly in Asia, and they include: 1) strong links with outside agencies which train local leaders, provide credit and other inputs, and audit accounts, disciplining those responsible for irregularities; 2) where socioeconomic structure is not strongly hierarchical and where membership of cooperatives is relatively homogeneous, their introduction was more successful; 3) cooperatives able to provide a major technological innovation (e.g., tube-wells) are more likely to succeed than others; 4) leaders accountable to membership; and 5) resolution

of community conflicts done by traditional institutions.

#### NONFORMAL EDUCATION

Education plays a leading role in facilitating change in rural areas; but it is usually delivered through formal systems designed primarily for urban populations. When curricula are incompatible with rural needs and access is denied to out-of-school adults and children, who often have the most urgent problems, it becomes dysfunctional.

The rising costs of formal education makes its continued expansion at past rates of growth beyond the financial capacity of most developing countries. In Latin America, for example, by 1980, 5.5 percent of the region's projected G.N.P. will have to be spent on education just to maintain the spending rates of the 1960s. This is a percentage higher than that expended in most developed countries.<sup>37</sup> In all Latin American nations during the period 1960-68 the increase in expenditures on formal education exceeded the growth rate of G.N.P.; and enrollments increased at a rate of 6.2 percent a year, whereas formal education expenditures leapt by 11.3 percent.<sup>38</sup> Much the same situation exists throughout the rest of the developing world. With increasing costs for salaries, supplies, facilities, and rising demand for education at the same time as demand is growing in other sectors, alternative modes of education are urgently needed.

Six principal concerns have prompted the recent interest in educational alternatives: 1) the combination of decreasing resources with growing school-age populations; 2) the need to balance access to education with a society's resources; 3) the urgent need for innovation in education; 4) the need to both supplement and complement formal education systems; 5) satisfaction of specific human needs in developing countries; and 6) the need to reorient societies' values toward educational achievements.

Most educators recognize three modes of education, with a degree of overlap and interaction between each (Table 5): formal education, nonformal education and informal education. "Formal education" is highly institutionalized, chronologically graded, and hierarchically structured, ranging from kindergarten through post-doctoral training. "Nonformal education" signifies organized, systematic activities such as agricultural extension, adult literacy programs, or various types of community improvement programs, undertaken outside the formal system, and which provide selected types of education to particular groups of people. "Informal education," is regarded as: ". . . the lifelong process by which every person acquires and accumulates knowledge, skills, attitudes, and insights from daily experiences and exposure to the environment--at home, at work, at play; from the example and attitudes of family and friends . . . . Generally, informal education is unorganized and often unsystematic; yet it accounts for the great bulk of any person's total lifetime learning . . . ."39

Not surprisingly traditional education systems are usually regarded as a type of informal education, for rarely has such education been perceived as a system for transferring an organized body of information from one generation to the next. But traditional education in many respects is formal. Although not abstracted from daily life, training for food procurement, for example, has analogs of most elements of a formal system of in-school education,<sup>40</sup> and can be regarded as a process of cultural transmission deliberately organized to pass on information about subsistence activities. It takes place in a particular setting, and is carried out according to specific routines. The principal distinction between in-school and out-of-school learning is that the former is abstract, whereas the latter is concrete or sensory.

For maximum impact on development education should be viewed as "learning" rather than as "schooling," and emphasize the needs of learners. Formal, organized activities are clearly important, whether



Table 5

COMPARISON OF PRINCIPAL CHARACTERISTICS OF NONFORMAL  
AND FORMAL EDUCATION

Variable	Non-Formal Education	Formal Education
Structures	Range from high to low level (usually low); little interrelatedness of components.	Relatively highly structured; functionally interrelated set of units hierarchically ordered.
Content	Usually task- or skill-oriented dictated by functional needs of participants; low verbal; may reflect values conflicting with status quo and elites; discreet content units.	Generally academic, abstract, and often ethnocentric; highly verbal, reflects status quo values of elites; articulated content units.
Time	Short-term, present orientation; time and gain closely joined; often part-time study; flexible timing of activities.	Future oriented; time and gain not joined; full-time attendance stressed; inflexible sequence of activities.
Controls	Uncoordinated, fragmented, diffuse; voluntary organizations predominate; greater degree of local control; decisions often made at program level.	Coordinated control, national, regional, or religious bureaucracies predominate; centrifugal tendency; elites influential in higher control positions.
Locales	Low visibility, may be on-the-job, at home; participants bear fairly low costs; high efficiency of locale utilization, i.e., functionally related to learning.	Highly visible, expensive, fixed in place, often state-supported; urban preference; low efficiency of plant utilization; learning physically isolated from application.
Functions	Great variation but stress on resocialization, acculturation, and learning of practical skills and knowledge to be used in work or community situations; terminal; seeks to supplement or complement formal schooling.	Stress on socialization, enculturation, and perpetuation of educational bureaucracies, legitimization of existing elites, their values and behaviors; conferring status, selection, and possible elite recruitment.
Rewards	Payoffs tend to be tangible, immediate, or short-term gains related to work or daily life, i.e., increased material well-being, productivity, self-awareness, and/or power to control environment.	Payoffs tend to be deferred promise of long-term gains in sociocultural and economic status.
Methods	Teacher helps student interact with and master the material to be learned and applied; content-centered; methods relatively flexible and related to application and performance-standard needs.	Knowledge standardized transmitted from teacher to pupil in classroom; teacher-centered; teaching methods dictated by policy, relatively flexible and non-innovative.
Participants	Learners from all age groups, i.e., not age- or place-defined; job mobility concerns predominate; great variety of teacher qualifications and motivations.	Students age-defined, predictable; usually urban in outlook and social-mobility conscious; teachers formally certified.
Costs	Great variation in costs per program and per student vis-à-vis costs for comparable educational programs in formal system; economies of size not often possible.	Costs standardized by level and increase moving up the structural hierarchy; economies of size possible.

SOURCE: Adapted from Paulston (1973:xiii-xiv).

they come through schooling or via the traditional family education system.<sup>41</sup> But nonformal education is crucial for meeting the learning needs of populations not served by formal systems. A sample of needs (objectives) and populations served (clienteles) by various modes of education is set forth in Table 6.

As rural areas are penetrated by new technologies and other innovations, governments of developing nations are faced with the complex task of introducing and disseminating new skills and knowledge. In most countries, however, rural areas do not develop at the same pace or even follow the same trend. Low-cost, adaptable, flexible educational delivery systems are needed to satisfy the diverse educational demands of rural regions (see Table 7).

In most nations formal education barely exists in rural areas, and the potential for nonformal education has barely been tapped. Attempts to coordinate and blend the various scattered, small-scale nonformal education efforts are usually never made and the limited resources allocated to this sector allow no more than a small percentage of the total rural population to participate. Few nonformal programs are concerned with basic or general education, but concentrate instead on the education of male farmers, hardly catering to other occupations or to women, who play a vital role in traditional farming and rural development.<sup>42</sup> Localized nonformal programs commonly deal with health, nutrition, family planning, and home economics, but are usually operated or sponsored by different agencies and directed at the same "target population," with little inter-agency cooperation.

Rural nonformal education has historically taken three forms: extension, training, and self-help programs. Extension education and training are models "least-likely-to-succeed" in promoting rural development, since they are often based on the notion of "benevolent authoritarianism," assuming that only outsiders with superior knowledge and wisdom can bring about modernization in traditional societies. Moreover, although

Table 6

OBJECTIVES AND PRINCIPAL CLIENTELES OF SELECTED NONFORMAL  
EDUCATION PROGRAMS IN DEVELOPING COUNTRIES

1. General education (literacy, numeracy, change-motivation, development-orientation).	Rural youths and adults.	ACPO in Colombia; Functional Literacy Programs in Mali and Thailand; Sarvodaya in Sri Lanka.
2. General education plus occupational orientation and training (including elements of both farming and nonfarm occupations).	Early drop-outs from formal schools, primary school leavers, youths in formal institutions.	Cuba's Schools-in-the-Countryside; Jombang Project in Indonesia; Youth Camps and Youth Centers in Jamaica; Village Polytechnics, National Youth Service, and Youth Centers in Kenya; COPs in Mali; Diyagala Boys' Town in Sri Lanka; prevocational courses in Sri Lanka secondary schools; Rural Education Centers in Upper Volta.
3. Improvement of family life (health, nutrition, home economics, family planning, etc.).	Rural adults, women and girls.	ACPO in Colombia; Women's Organizations in Kenya, Mali, and Sri Lanka; literacy and family life program in Thailand; Sarvodaya Movement in Sri Lanka.
4. Training in farming and allied sideline production.	Youths and adults in rural families, rural out-of-school youths.	PACCA in Afghanistan, SENA-PPP-R in Colombia, ORD programs in Korea, Jombang Project in Indonesia.
5. Training in rural nonfarm skills.	School leavers and other adolescents, rural adults employed in nonfarm occupations.	SENA-PPP-R in Colombia; mobile skill training and cottage industries programs in Sri Lanka; Rural Industries Projects in India; Vocational Improvement centers in Nigeria; Mobile Trade Training Schools in Thailand.
6. Training for small entrepreneurship and management.	Workers and owners of nonfarm enterprises, unemployed educated adults.	Rural Industries Project and Entrepreneurship Training Programs in India; Vocational Improvement Centers in Nigeria.
7. Training for village level leaders, animators, and extension workers.	Extension officers; new recruits for animation and extension work; village youth and women leaders; cooperative officers; unemployed educated youth.	CARs in Mali; Sarvodaya in Sri Lanka; National Youth Services in Sri Lanka; ORD in 4-H Programs in South Korea; IRRI Extension Training Program in Philippines, Tanzania's Cooperative Education Program.

Table 7

TYPICAL RURAL OCCUPATIONAL GROUPS AND THE  
EDUCATIONAL NEEDS\*

A. Persons directly engaged in  
agriculture

1. Commercial farmers.
2. Small- and medium-scale farm families.
3. Landless farm workers.

- \*Farm planning and management; record keeping; cost and revenue computations; use of credit.
- \*Application of new inputs, varieties, improved farm practices.
- \*Storage, processing, food preservation.
- \*Supplementary skills for farm maintenance and improvement, and jobs for extra income.
- \*Knowledge of government services, policies, programs, targets.
- \*Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning).
- \*Civic skills (e.g., knowledge of how cooperatives, local government, national government function).

B. Persons engaged in off-farm  
commercial activities

1. Retailers and wholesalers of farm supplies and equipment, consumer goods and other items.
2. Suppliers of repair and maintenance services.
3. Processors, storers and shippers of agricultural commodities.
4. Suppliers of banking and credit services.
5. Construction and other artisans.
6. Suppliers of general transport services.
7. Small manufacturers.

- \*New and improved technical skills applicable to particular goods and services.
- \*Quality control.
- \*Technical knowledge of goods handled sufficient to advise customers in their use, maintenance, etc.
- \*Management skills (business planning; record keeping and cost accounting; procurement and inventory control; market analysis and sales methods; customer and employee relations; knowledge of government services, regulations, taxes, use of credit).

C. Rural administrators, planners,  
technical experts

1. General public administrators, broad-gauged analysts and planners at subnational levels.
2. Managers, planners, technicians, and trainers for specific (e.g., agriculture, transport, irrigation, health, small industry, education, family services, local government, etc.).
3. Managers of cooperatives and other farmer associations.
4. Managers and other personnel of credit services.

- \*General skills for administration, planning, implementation, information flows, promotional activities.
- \*Technical and management skills applying to particular specialties.
- \*Leadership skills for generating community enthusiasm collective action, staff team work and support from higher echelons.

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SOURCE: Adapted from Coombs and Ahmed, 1974:17.

\*Needs do not differ between levels of sophistication and specialization.

their methodology differs markedly, many "extensionists" and most practitioners of the training approach believe that a strategy based on the infusion of modern skills and knowledge, without regard to other inputs, can bring about development.

Cooperative self-help, on the other hand, requires that initiative for change come from the local population, and outside agencies then render assistance only in response to a people's expressed needs. Essentially a nonformal education process, it emphasizes local institution building for self-help and governance. Critics who fault the approach, suggest that local problems can only be overcome with outside help, but overlook the fact that many such problems emanate from simple-minded attempts by outside agencies to render assistance.

An innovative rural education system should endeavor to blend formal, nonformal, and informal education to reach the rural poor. It could use traditional (informal) education as a vehicle for delivering rural education, in which case even the world's poorest zones would already have a substantial part of the investment needed to establish an innovative rural learning system. Informal learning systems are rich in culture, tradition, and educational technique, and, if used innovatively, can add to knowledge and skills needed to promote rural development. Basically, informal education systems should perform an intermediate function, serving as a point of entry for nonformal, and to a lesser extent formal, education systems into local communities. Moreover, such a composite system is inherently more versatile than each of its component parts and is therefore more suitable for meeting the diverse regional needs of most developing countries.

LAND IMPROVEMENT, REDISTRIBUTION AND SETTLEMENT

Land tenure, the base of the economic structure of most rural societies, "embodies those legal and contractual or customary arrangements whereby people in farming gain access to productive opportunities on the land. It constitutes, according to Dorner, "the rules and procedures governing the rights, duties, liberties and exposures of individuals and groups in the use and control over the basic resources of land and water."<sup>43</sup> Land reform attempts to reformulate those rules and procedures so that tenure patterns are consistent with the goals of economic and social development.

The principal types of changes include:

1. Expropriation of large estates, which attempts to distribute land to tillers in either collective or individual ownership;
2. Abolition of tenant farming where tenants become owner-occupiers;
3. Amelioration of tenancy conditions, through rent reduction, compensation for improvements, or greater security of tenure;
4. Issuance of land titles to improve tenure security;
5. Changes in tribal or traditional farms to improve cultivators' rights.

Although viewed in the past as an instrument for achieving social justice and reducing economic disparities, land reform is now also seen as a means of increasing agricultural productivity. To be effective, however, land reform, like most inputs to rural development, must be accompanied by other changes in rural social systems. Moreover, if not properly administered, and in the absence of complementary inputs, land reform can have deleterious effects. In parts of Bolivia, for example, when large haciendas were divided among tenant farmers, poor cultivation practices soon led to widespread environmental destruction through soil erosion and vegetation damage.

The greatest obstacle to land reform is usually economic and political opposition by vested interests, which most often can only be overcome through confrontations between political elites and organizations representing farmers and laborers, or through external pressure by assistance agencies. But many countries lack local organizations effectively representing tenant farmers, sharecroppers, and laborers that politically mobilize rural people, and there is no pressure group either to ensure that reform laws are passed, or to enforce existing laws on rent control or minimum wages. The legislation that is passed is usually ineffective, which confirms the rural populations' view that government acts in bad faith and has no interest in improving the lot of the rural poor. When legislation is enacted in many developing countries, it lacks specific procedures to redistribute land in long settled areas or to compensate owners at fair prices. Reform laws often focus on small holdings, ignoring the large estate; set up inordinately complex and excessively legalistic procedures; and fail to provide adequate budgets for implementation. In most developing countries official land records have not been kept, and as a result claimants' statements cannot be verified, or titles readily upheld. Similarly, the lack of statistics on the critical development variables provides planners with a poor data base preventing them from properly measuring the impact of programs.

No single approach to land reform is appropriate for the wide variety of conditions and problems that appear in developing countries. Strategies must be based on a nation's natural resource endowment, institutions, and sociocultural conditions, which vary greatly and include heterogeneous cultural mixes and land tenure systems, ranging from plantations to traditional smallholdings. Equally varied have been the methods for redistributing land which range from confiscation without compensation to expropriation with compensation by the State.

Schemes to open up pioneer zones on agricultural frontiers are common in South America, and are also used in central Africa, and Malaysia,

and Indonesia, in Southeast Asia. Other resettlement schemes, in occupied areas, aim at rationalizing the distribution of population, and at creating a more equitable pattern of landholding. An example of the latter approach is to be found in eastern and north-central Sri Lanka. The largest number of individual resettlement and pioneer colonization schemes is found in Latin America, which include projects directed by governments and "spontaneous colonization." Varied levels of success have been reported, and, because of the complexity of variables affecting performance evaluation of this method of land development in Latin America is difficult.

A review of land reform programs indicate the following needs to be done in designing policy: 1) Incentives must be created for those who would preserve the status quo to divest themselves of their holdings. Such incentives can be either positive or negative; 2) Rural organizations must be created to enable peasants to express their needs and grievances; 3) Two-way communications must be established to facilitate rural participation in program implementation; 4) Government technicians and program administrators should thoroughly understand the physical and sociocultural environments which they seek to change; 5) Greater emphasis should be placed on substance and less on ideological rhetoric in policy design; and 6) The nature of private property, freedom of contract, and competition need reevaluating in the context of development. For, in relation to land tenure, all three concepts may serve to perpetuate and exacerbate existing disparities.

#### RURAL ENERGY SOURCES

Economic and social progress is intimately related to the controlled use of energy. In developed nations, and in urban sectors of the developing countries, most energy is supplied by central electric power grids and petroleum fuels delivered via sophisticated transportation



systems. Elsewhere, a variety of traditional sources of power generally depend on the use of indigenous materials.

Originally, man depended on his own muscular energy, as many contemporary societies still do, a source hopelessly inadequate for rural development. Merriam notes that one man-year of muscle power is the equivalent of only about 150 kwh, and is economically undesirable even at subsistence wage rates.<sup>44</sup> Animal traction is also basically inefficient, and under land tenure and ecological constraints is not useful on a large scale because of severe limits on available grazing land.

Rural people usually burn wood, charcoal or dung to satisfy fuel needs. At least half of all timber cut in the world is used as a domestic fuel, and 90 percent of the population of most poor countries depend on firewood, the average user burning up to one ton a year.<sup>45</sup> As fuel prices increase urban people scrounge anything burnable, including twigs and garbage. In Pakistan the bark is stripped from trees; in India wood is "poached" from protected areas and in the People's Republic of China newly planted saplings are stolen from reforestation schemes.<sup>46</sup> But the problem is basically localized, the economies of wood as fuel do not permit trucking more than a few hundred miles beyond growing points. "The accelerating degradation of woodlands," Eckholm points out, "throughout Africa, Asia, and Latin America, caused in part by fuel gathering, lies at the heart of what will likely be the most profound ecological challenge of the late twentieth century."<sup>47</sup> Deforestation leads to soil erosion, landslides, disastrous floods, dustbowls, the spread of deserts, degraded wild vegetation, and the silting of dams, reservoirs and irrigation works.

In areas short of firewood animal dung is used for domestic fuel, a common trait in the Indian subcontinent, the Sahelian Zone of Africa, Ethiopia, Iraq, and in treeless tracts of the Bolivian and Peruvian Andes. In India, Pakistan, and Bangladesh dung patties are a

traditional domestic fuel--animal waste used for fuel is equivalent to more than 30 percent of the chemical fertilizers used annually in India. Other substitutes are used elsewhere. In highland South Korea villagers cause soil erosion by raking whole hillsides clean of leaves, vegetation litter, and burnable materials, in addition to cutting branches, shrubs, seedling and grasses for fuel.<sup>48</sup> The Tiv people of Eastern Nigeria react to fuel scarcity by uprooting and burning crop residues formerly left to reduce erosion and enrich the soil.<sup>49</sup>

Alternative sources of energy available in rural regions are noted in Table 8: wind and water power (mechanical); solar energy and "bio-gas" plants (thermal); and local and regional/national grids; auto-generators; and "solar batteries" (electrical). In purely economic terms, most of these alternatives are too expensive for either individuals or communities and a "socially oriented" public institution must usually bear the financial costs of developing and providing alternative energy supplies in rural areas. Locally available non-traditional sources in rural areas include:

1. Wind Power. The great advantage of this source is that it is mechanical, whereas most local energy sources are thermal.<sup>50</sup> Its major disadvantage is that it is undependable, hence best suited for tasks such as lifting water and grinding grain, which do not demand continuous work. The most appropriate use of wind power is for charging electrical storage batteries.<sup>51</sup>

2. Water Power. If available (usually it is either absent or only seasonally present) this source should be used first; small streams can be dammed for multiple purposes (e.g., irrigation, fish ponds, and for power) to produce either mechanical or electrical power in small amounts and at a reasonable price for small local communities.

3. Sunshine. "Solar energy" in the form of direct solar radiation has five unique advantages: it is inexhaustible, intrinsically pollution free, abundantly available, widely distributed and freely available without political complications. Like wind power, however, its

Table 8

## CLASSIFICATION OF RURAL ENERGY SOURCES

TYPE	SOURCE*	NEEDS AND USES (EXAMPLES)*	MAIN PROBLEMS
MECHANICAL	Manpower Animal-Power Wind-Power Water-Power	Water lifting; operate tools and machines; refrigeration.	<u>Manpower</u> : hopelessly inadequate. <u>Animals</u> : requires too much land. <u>Wind</u> : generally absent; intermittent; unreliable. <u>Water</u> : not usually available.
THERMAL	Sun Wood/Charcoal Dung "Bio-Gas" Plants (Methane)	Agricultural drying; industrial process heat; water heating; cooking, refrigeration; sterilization; lighting.	<u>Sun</u> : intermittent; diffuse in space; scale inefficiencies; sophistication problems; expense. <u>Wood</u> : acute ecological problems; inefficient; wasteful. <u>Dung</u> : acute ecological problems; inefficient; wasteful. <u>Methane</u> : expensive; loss of fertilizer
ELECTRICAL	Autogenerators  "Solar Batteries"	All "modern" public; private uses.  Household and small-scale commercial.	Relatively expensive; large investment; public institutional desire/capacity; unsuitable for small island (e.g., Pacific) situations.  Very complex and prohibitively expensive.

\*Correspondence is between category and not item.

intermittent supply and diffusion in space is an additional drawback leading to collection difficulties. But the conversion of solar radiation to everyday energy uses is still an expensive and sophisticated process as yet unsuited to the rural needs of developing countries. Merriam suggests that its best use is for refrigeration (household refrigerators, space cooling, air conditioning and ice-making) and for produce storage in agro-industrial processing plants, and in wholesale and retail outlets.<sup>52</sup>

4. "Bio-gas" Plants. Butane, a highly combustible gas, produced under anerobic conditions by bacterial action on organic matter, can provide a cheap source of domestic gas in rural areas. On certain small Pacific islands--which face particularly difficult energy development problems--Chan has shown that a 300-gallon tank can supply the lighting, cooling, and refrigeration needs of a family of six when filled with pig manure.<sup>53</sup>

All of these non-traditional energy sources, however, can only serve small, isolated, population clusters and individual farmsteads and they offer no extensive solution to the energy requirements of rural development. Such needs demand rural electrification.

Rural electrification can only be supplied, however, with the growth of sufficient demand. Before a public grid makes supplies available, large farms, business and small communities frequently produce their own electricity from small, diesel or water-powered generators. This type of "auto-generation" ranges in size from 5 kilowatt plants producing enough for small-scale refrigeration and lighting on a farm to 1500 kilowatt plants capable of powering an entire sugar mill. Auto-generation is relatively expensive, but because of demand such enterprises are generally profitable.

As demand develops, supplies eventually come from public power grids, established first in major urban centers, gradually extending to

smaller towns, and eventually reaching villages, scattered farms and individual agro-industrial plants. Most public investment is in supplies from a main grid although some is made in auto-generation. The World Bank notes that, ". . . capital costs of supplies from the grid are much higher than those of auto-generation, but the fuel, operation and maintenance costs are much less. When the utilization of the project is high, this strongly favors the more capital-intensive and less fuel-intensive investment in supplies from the grid."

Auto-generation compares well only when use levels are low, but is heavily penalized by fuel costs. In remote localities, however, a grid system cannot compete because to extend a transmission line of 25 km to an isolated demand center costs almost \$100,000. Rural electrification costs are acutely sensitive to the level and growth of demand, level of use, distance between demand centers, and nature of topography.<sup>54</sup> Initial investment in public supplies may cost about \$50,000 per demand center--but marginal extensions to neighboring communities may cost only \$5,000.

Rural electrification presents certain unique planning problems not encountered in other public utilities. These problems fall mainly into two categories: ordering priorities, and the economics of location and distribution. The question of priorities concerns both the importance of rural electrification in comparison with other investments needed in rural areas--such as physical infrastructure, new agricultural technology, credit, marketing arrangements and land improvement--and the most effective sequence for introducing electrical energy in a rural area. Rigging transmission lines, putting in other components, and servicing electrical plants are often much cheaper if preceded by road development.<sup>55</sup>

Economics of location and distribution also constitutes a special problem for planning rural electrification programs. The 100,000 villages of Mexico obviously cannot all be provided with independent "micro-grids." Because of the geographic pattern of demand--a

hierarchy of nodal demand centers, with scattered individual demand units (farms)--and the nature of electrical technology (nodes and linkages) the most sensible rural electrification planning unit is the region. "Costs can be reduced considerably by coordinated planning rather than by ad hoc piecemeal extensions in a region"; according to the World Bank and mobilization of local administrative and technical talents is easier at the regional level.<sup>56</sup>

The following principal criteria should be used to identify regions most suitable for investment in rural electrification: fairly well-developed complementary infrastructure; growth of agricultural output; growing number of local productive uses of electricity in farms and agro-industries; number of not too widely distributed village demand centers; improvement of local income and living levels; regional development plans should already exist; and the region should preferably be fairly close to a main grid. World Bank experience indicates that "the returns to rural electrification increase with the level of development in rural areas . . . improved roads reduce the costs of construction, maintenance, and administration of programs."<sup>57</sup> Several interrelated benefits accrue from an investment in rural electricity--growth of commercial activity resulting from increased rural incomes and the growth of infrastructure--together stimulate demand for increased power and energy.

#### APPROPRIATE TECHNOLOGY

Technology embraces a range of definitions, a vast spectrum of "tools," "software" and "hardware" components, social organization and production machinery. Those in industrial nations who criticize modern technology for its adverse effects on society and the environment, and for absorbing non-renewable natural resources, are undoubtedly correct in claiming that high technology does not produce "trickle down" development, and that is too expensive for most developing countries. But modern

technology is also extremely innovative in devising synthetic substitutes for the resources that it absorbs, and clearly, high-technology based industries in large urban centers have stimulated much of the growth that has taken place in developing nations. For these reasons alone it is important. But to maximize benefits, modern technologies must be properly located in an articulated spatial system, and complemented at different levels in a spatial hierarchy by "intermediate-" and "village-level" technologies. A variety of technologies must be made available to developing countries, appropriate to their physical and sociocultural environments, ranging from the sophisticated oil refinery to the shifting cultivator's digging stick. Each element has its appropriate function and place in national development.

The fundamental role of appropriate technology in rural development is to upgrade the welfare and increase the production of small- and medium-scale farmer and tradesman. "Intermediate technology" is perhaps most suitable for the more prosperous and for farmers organized cooperatively, whereas the "poorest majority" may be better served by village technology. Schumacher argues that the task of intermediate technology "is to bring into existence millions of new work places in the rural areas and small towns," to enable the poor to "work their way out of misery. The primary task must be to maximize work opportunities for the unemployed and underemployed."<sup>58</sup> More precisely, he formulates the real task of "intermediate technology" in terms of four basic propositions: workplaces must be located where people now live; workplaces must be low-cost and not call for insupportable amounts of capital; production methods, organization, raw material supply, financing and marketing arrangements should mainly demand locally available skills; and production should use local materials and be aimed primarily at local consumers. Whereas "intermediate technology" is concerned with small-scale industry starting with existing techniques and using knowledge of advanced techniques to transform them, village technology is aimed primarily at the small-scale "peasant farmer."<sup>59</sup> In most of the poorer developing countries

where peasant farmers perform all operations using manual techniques and where goods are taken to market by human portage, limited cash surpluses are allocated to purchasing essentials that cannot be produced at home (e.g., salt, clothes, kerosene, and modern medicine). Investment in new technologies has a very low priority, because of the high risk involved in adapting innovations and the lack of guarantees that new technologies will bring improvements.<sup>60</sup>

In the poorest communities technological innovation must be low-cost and of minimal risk. That realization, based on field experience in Tanzania, prompts MacPherson and Jackson to advocate village technology as the most appropriate form of agricultural innovation for rural development, arguing that ". . . even intermediate technology is still too costly for subsistence farmers."<sup>61</sup> Advocates of village technology assume that innovation should begin at the current level of village technical competence (using, for example, carpenters and blacksmiths versed in traditional techniques); materials should be available locally at relatively low cost (the working of metal into the implements required by "intermediate technology" is largely beyond village technical capacity), and the technology should be capable of local maintenance and repair (a major factor, as breakdowns are a common occurrence and generally lead to inordinate time losses). Village technology should seek principally to reduce bottlenecks and constraints in production systems.

Two fundamental notions are implicit for making the concept of appropriate technology operational: 1) that certain levels of technology have an appropriate spatial location in a hierarchy of settlements; and 2) that individual farms or hamlets require a technological mix, with elements derived from different technological levels.

To be appropriate, a technology must also fit into its environment and be congruent with national technological policies. A major problem in developing countries is labor absorption. Although technology policies



should generate employment, no technology is useful if it produces goods or services for which there is no demand. To be relevant, technology should seek to fulfill demands for low-cost products within the purchasing power of local populations, a demand that usually goes unmet. "The marketability of products and services must be the overriding consideration in the selection of appropriate technologies for developing countries," contends Khan, hence considerations must ". . . begin with an assessment of the primary needs of the local population, the demand for products and services to meet these needs, and a subsequent analysis of the technologies that could economically cater to these demands through an optimum use of local resources."<sup>62</sup>

There are no universally applicable technologies, those introduced in rural areas must be appropriate and adaptable to local conditions, problems and needs. Among the basic criteria of an appropriate technology are:

1. That it should be suitable in terms of
  - a. Capital expenditure per head--technology should be consonant with what a country can afford;
  - b. Labor Productivity--technologies transferred to a developing country should be modified so that the productivity of labor does not exacerbate differences between modern and traditional sectors;
  - c. Scale--technologies must be adapted so that the scale of production does not oversaturate a small domestic market, and inhibit entrepreneurial activity;
  - d. Skill Requirements--technologies of industrialized countries have emerged against a background of rising supplies of skilled labor which are rare in developing countries; appropriate technologies should not lead to high skill differentials;

- e. Input Requirements--appropriate technologies should use domestic materials;
  - f. Products--products must be locally useful, relatively cheap, durable, and versatile, and should not cater exclusively to the wealthy. Developing countries needed "appropriate products" those designed to meet the needs and income levels of people within rural regions of developing nations,<sup>63</sup> as much as they need appropriate technologies.
2. A balance should be struck between traditional and modern technologies, each having its appropriate functions in urban and rural areas of developing countries.
  3. An appropriate technology should be flexible and adjustable to changes in conditions, needs, resources, skills and demand for new products over time.

#### RURAL INDUSTRIALIZATION

As a component of rural development programs, rural industrialization is distinct from private entrepreneurial investment in rural industries. The government's role should be to plan, at the regional level, consistent with national development goals, industrial expansion programs adapted to local needs and conditions. Because of its high cost, industrialization should be carefully programmed, considering a region's spatial system, human and natural resource endowments, capacity for supporting industry, and social and cultural conditions. Rural industrialization programs should be based initially on agro-industries and the processing of primary products, on rural production systems already in place, and on local administrative and financial capacity. Generally, two types of locations have been chosen for

rural industrialization--development centers and industrial estates.

Successful programs can be found in Israel, Puerto Rico, Yugoslavia, and Japan. Typical is Israel's "Agridus" program, involving many neighboring villages in maintaining agricultural transport, marketing and financing of farm produce, establishing factories and workshops.<sup>64</sup> The most dynamic elements in Japan's transformation from a semi-feudal state to a modern industrial power during the Meiji period were based on the rapid expansion of rural employment in the Tokugawa castle towns. Hitherto agriculture and small, traditionally organized industries had accounted for most of the growth of income, but with the Meiji restoration, non-agricultural employment and incomes in the castle towns generated a greater spending power and savings, and thus triggered the transition to a modern society.

The sweeping changes that have transformed Puerto Rico in the last thirty years may be partly attributed to using development centers to provide non-agricultural employment for agricultural hinterlands. The systematic industrialization of central places in all the 77 municipalities provided much-needed employment in a desperately poor island.

Industrial estates are widely used to "cluster" rural industrial investment in Ireland, India, Hong Kong, Pakistan, Israel, and Puerto Rico. Puerto Rico reports conspicuous progress toward rural-urban integration using his approach. There, "the use of government built industrial estates has been the means of transforming stagnant rural communities into pulsing hives of industry; and whereas thirty years ago the only factories on the island were in the two large cities [San Juan and Ponce], today there are factories in every one of the 66 municipalities."<sup>65</sup> Rural industrial estates should be located in or near development centers to achieve spatial economies of agglomeration and association. Ideally, they should accommodate a mixture of enterprises--manufacturing, primary products processing, and service

industries--in order to lessen the impact of seasonal and cyclical fluctuations and provide surrounding communities with a measure of business stability and employment security. Industrial estates containing basic processing activities can stimulate growth of agro-urban centers in the surrounding hinterland.<sup>66</sup>

If rural development programs are to attain their goals, two important factors must be considered in planning: establishing inter-industry linkages with rural regions, and integrating industrial activities into larger rural and urban development projects. Industrialization has been promoted successfully in developing nations through rural industries projects, rural industrial estates, large industrial complexes and enterprises, cooperative processing of agricultural produce in rural areas and rural subcontracting.

1. The Rural Industries Projects represent a composite approach, used in India, which emphasizes the growth of industries in rural areas and small towns aimed at intensive and integrated development of diverse small industries and agro-industries in order to create and expand rural non-farm employment. Priority is given to well-developed agricultural zones suffering from heavy population pressure; unirrigated agricultural areas needing alternative employment sources; areas with poor natural resource base, tribal and other "backward" areas; zones with large actual or planned industrial projects; and areas near rural universities or other institutes of higher education. In India, plans required that such projects be located at selected villages and in small towns where population, requisite skills and some industries already existed, with suitable communications and energy facilities. Each center was to be a nucleus for intensive development of its surrounding area. As development proceeded, small centers and traditional industries were gradually added.<sup>67</sup>

The Rural Industries Project emphasized the development of industries based on local raw materials, local demands, and local skills, although

not precluding the possibility of assistance for others. Local material-based industries depend on an area's primary agricultural, animal husbandry, minerals, forests, and fisheries products. Local demand-based industries relate to modern agricultural inputs, such as implements, chemical fertilizers, and also consumer needs including textiles, construction materials, and ceramics. Local skill-based industries cover arts and handicrafts. Projects were designed to create both "direct" (e.g., employment generating, income raising, and stimulating demand for manufactured goods) and "indirect" (e.g., resource development, technological change, promotion of ancillary/allied industrial activities) linkages within and outside of the project area.

2. Rural Industrial Estates attempt to promote industry by providing steady employment to the seasonally unemployed agricultural labor force, to support traditional craftsmen, to check urban-industrial growth. Estates in India are located in urban areas (50,000 + population), semi-urban areas (5,000-50,000), and rural areas (less than 5,000), and in rural areas the term "industrial estate" has been applied to a group of workshop/sheds belonging to artisans. The estates program has had varied success in India, because of seemingly haphazard location decisions, those with good access to towns or cities have attracted outside entrepreneurs and have increased production and employment more than those located elsewhere. Experience clearly suggests that rural industrial estates should be located near a town or village with both infrastructure and development potential, and that location far from central places weakens their attraction.

3. Large Industrial Complexes and Enterprises is a heterogeneous category, of public and private agro-industries. In India several industrial opportunities based on the processing of low-grade manganese ore and the carbonization of non-coking coal are apparent. Coal processing reduces the cost of manganese, conserves metal for steel manufacture, and helps to promote plants producing domestic gas,

coking coal for local industries, tar acids, ammonia and phenols, cresols, asphalt, high-grade cement, plastic synthetic resin and nitrogen coal fertilizer. The processing plant located in a small rural growth center, already the site of eleven small industrial units, is expected to promote a pattern of industrial activity in the surrounding area.<sup>68</sup>

4. The Industrial Complex Pattern is based on the processing of primary agricultural resources such as cotton, sugarcane, rice, and the use of their waste byproducts, as well as on the manufacture of selected agricultural inputs. By promoting both horizontally and vertically connected industrial activity in rural areas, this pattern is seen in India as more useful than one based on the exploitation of non-local resources.

5. Rural Subcontracting is best illustrated from Japan, where several large industrial concerns obtain components for their principal products both efficiently and at comparatively low cost, from rural feeder/ancillary plants. Such "farm village factories" can also be established to aid agro-industrial development.<sup>69</sup> Ishido and Sugaura are typical centers: "[They contain] small workshops processing precision parts and are attached to the yard or vacant land . . . . They have a couple of machine tools, enough for working whenever farmers find time. Ishido comprises 20 unit houses and engages 33 workers. Sugaura has 20 unit houses and 52 workers. Village home industries are directly connected with a farm-family and employ some family members for the whole or part of a day . . . . [hence] control costs are comparatively small but control effectiveness is substantial."<sup>70</sup> Those shops are complemented by village precision factories performing operations which require special techniques and employ varying numbers of people according to the type of work done and thus absorbing "surplus" and underemployed population.<sup>71</sup> The village precision factory is collectively managed and employees work set hours on a time-wage system. The parent factory is responsible for planning,

design, production methods and standards, tooling, testing and quality and efficiency control, and a technical guide, of rural origins, travels around the farm factories checking on the producers, feeding ideas both to and from the parent plant, ensuring the supply of raw materials, and arranging for the transport of the finished product.

Industry is crucial for rural development; it not only offers alternative employment for un- and under-employed farm labor, but provides other essential inputs. Rural industrialization is usually based initially on agro-industries and the processing of primary products, but, as a regional economy matures, should gradually diversify into non-agricultural activities.

FOOTNOTES

1. Marketing intermediaries play a very important role in the absence of a comprehensive rural regional infrastructure: working for a small commission 1-2 farmers sell small quantities of their neighbors' produce at the nearest center; other types of intermediaries buy at each farm gate and move produce to the nearest arterial route for resale to national and international buyers; others buy small quantities of produce along rural roads and in minor markets, consolidating the lots for domestic and foreign resale.
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## CHAPTER FIVE

### LOCAL ORGANIZATION FOR PROJECT IMPLEMENTATION

Two other preconditions are necessary to plan, organize and coordinate the variety of political, administrative, financial and technical components of integrated rural development: programmatic resources for organizing and operating individual projects and a set of local supporting inputs.

#### PROGRAMMATIC REQUIREMENTS FOR PROJECT IMPLEMENTATION

Certain institutional constraints must be overcome in order to expand government capacity to manage integrated rural development projects and to make international assistance strategy operational. Inputs simply will not be integrated without an organization responsible for project implementation, thus either the capacity of existing ministries must be expanded or autonomous units with effective coordinating powers and skilled technical and administrative staff must be established. Project organizations must not only have the capacities to plan, program and coordinate project activities, but also should be able to train indigenous staff, monitor and control those activities, and elicit participation of clients and beneficiaries. The importance of this aspect of project planning in developing countries is emphasized by the World Bank in its rural policy paper. "Much more attention needs to be paid to public sector organization, procedures and personnel management, and to the manner in which project organizations should be fitted into improved public sector systems," the Bank contends.

" . . . Multisectoral rural development projects, in particular, depend critically on inter-agency cooperation and coordination. Hence, those responsible for preparing such projects must seek to identify the real institutional constraints in the public sector and seek practical solutions."<sup>1</sup>

### Project Implementation Unit

Rural development projects succeed or fail on the strength and competence of implementing organizations. To succeed, projects must be assigned to a specific organization with sufficient resources and authority to perform its functions. Developing nations generally use one of three organizational arrangements for implementing rural projects:

- 1) assignment to an existing government agency, usually the Ministry of Agriculture or Rural Development or to a provincial government unit, from which regular civil service staff are obtained for management and coordination;
- 2) creation of an area-based coordination council or committee which attempts to integrate the inputs of a variety of ministries, agencies and private organizations through a board of directors composed of the heads of participating agencies and with a staff seconded from one or more of the ministries for temporary duty;
- and 3) establishment of a distinct project implementation unit, usually autonomous from and outside of the regular government structure, with staff recruited specifically to serve with the unit, earmarked financial resources and independent authority to perform specified functions.

There is little agreement on which arrangement is best. Assigning projects to existing ministries or coordinating councils is favored by some because it places responsibility for execution directly with government agencies, and can thus help build the administrative capability of operating ministries. The theory that autonomous units are more effective is based on the weakness of public administration in most developing countries, and the need to secure a degree of independence for project organization and operations.

The lack of planning and administrative capabilities and the dearth of trained manpower has forced many governments to create autonomous agencies, and international lending agencies, especially the World Bank, have insisted on this arrangement as a means of increasing the probabilities of successful execution and loan repayment. Assessing

projects in Cameroon, Malawi and Ethiopia, Lele notes that the low levels of administrative capacity made implementation of rural development programs by operating ministries nearly impossible, mandating the use of autonomous units. "In creating such autonomous administrative units," she observes, "it was assumed that the improvements in the indigenous administrative systems essential to achieve similar results on a wider scale could often be initiated more effectively by the demonstration effect of the integrated projects than by the alternative of improving the inadequate, uncoordinated and ill-trained existing administration."<sup>2</sup> Creation of autonomous units allows developing countries with severe shortages in trained manpower to recruit expatriate managers to supplement civil service personnel.

A number of other advantages are also ascribed to that approach:

1. It guarantees that the project will be assigned to an identifiable organization that can easily be held responsible for its activities, thus creating greater incentives to show visible results;
2. Clear authority can be granted to a single organization to coordinate activities and supervise performance of project functions within a specific region;
3. Financial resources for the project can be shielded from the routine budgeting process by creating special funds for the unit, or by allowing it to raise revenues outside of regular budgetary processes;
4. Autonomous units can be granted authority to pay higher salaries, better fringe benefits, and other amenities to attract highly skilled technicians and administrators outside civil service personnel and pay scale constraints;
5. Independent organizations often have greater flexibility to innovate and experiment than do regular government agencies;
6. They generally have greater freedom from bureaucratic routine, "red-tape" and complex interorganizational procedures for approving operating decisions;

7. Because they are organized to implement a single project or a related set of projects they can focus on a limited number of tasks, performing them more efficiently and expeditiously;

8. They can often perform highly specialized functions and activities that regular government agencies lack the competence or resources to undertake;

9. Sometimes they can be sheltered from the political infighting and bureaucratic conflicts that plague regular government agencies.

But establishing autonomous units for each major project can have serious disadvantages. Too often they become "powers unto themselves" responding more to international professional standards, pressures of funding agencies and their own political interests, than to directions from the national government or to the needs of client populations. In addition, the proliferation of autonomous agencies fragments budgetary resources and weakens the ability of the central government to make strategic budget decisions. In many cases autonomous units compete with operating ministries for the best talent and financial resources, draining regular agencies of their most skilled personnel. By isolating project management and planning functions in specialized organizations, it is argued, the administrative capacity of regular government agencies is weakened, or at least not improved. Tensions, jealousies and conflicts frequently develop between indigenous personnel seconded to the autonomous organizations and the expatriates who often occupy higher level positions. Being outside the structure of government, autonomous units often find it difficult to obtain the cooperation of regular ministries and agencies and of civil servants over whom they have no direct control or claims. Perhaps most important, autonomous agencies often attempt to perpetuate their own existence after completing projects and fail to transfer the procedures, methods and outputs to regular government agencies. In many countries, autonomous project organizations are necessary because administrative reforms, training, and modernization cannot proceed quickly enough to increase the capacity of ministries



to manage additional projects in the immediate future. But, at best, creating autonomous units is only a temporary paliative; national, provincial and local government units must be strengthened in order to plan and manage projects as an integral part of public administration. Based on experience with African rural development projects, Lele argues that "if project authorities are to be established as a way of alleviating the constraint of absorptive capacity and of creating a noticeable impact in the short run, there is an important advantage in facing the problem of its integration with the existing government structure at the outset in that it facilitates the necessary adjustments in project design, thus increasing the long run effectiveness of the project."<sup>3</sup>

#### Managerial and Technical Manpower

The shortage of skilled manpower to plan, manage and operate projects is a major bottleneck to implementing the new development strategy. Assistance agency evaluation reports repeatedly stress the need for trained project managers. "The constraint most frequently mentioned in connection with absorptive capacity in Ethiopia is the availability of trained manpower, availability in terms of numbers, quality and ability of the government to contract those it requires," notes one USAID evaluation team. "On the basis of an objective appraisal of the manpower situation one has to conclude that Ethiopia needs additional highly trained and experienced personnel if it is to initiate new projects and activities."<sup>4</sup> This finding is echoed by an IBRD Mission to West Africa: "A major restraint in the region is the shortage of skilled local manpower to identify and prepare projects."<sup>5</sup> And the Asian Development Bank argues that "the further development of institutions to provide a steady stream of trained cadres for the more effective use of resources is a necessary ingredient in raising the absorptive capacity of the smaller and less developed countries."<sup>6</sup>

Most African and some Latin American and Asian nations depend heavily

on expatriate managers and technicians to staff rural development projects; but this also produces problems, for experts with language skills and cultural knowledge are scarce, and low salaries, poor housing and the lack of amenities in rural areas make foreign experts reluctant to live in remote regions. Expatriates often have difficulties working effectively with indigenous personnel and the high turnover and dissatisfaction among indigenous professionals, relegated to junior positions in project implementation units, is a serious deterrent to more effective administration. Uma Lele notes, in her analysis of African rural development projects, some of the problems in Ethiopia: "Whether prompted by legitimate or perceived grievances, the dissatisfaction of WADU's [Wolamo Agricultural Development Unit] staff illustrates the vicious circle created by initial staffing problems; poor working conditions, and inadequate training given to the available indigenous staff and, hence, inadequate incentive to remain in project authorities," she maintains. "Because of staffing difficulties, project authorities are generally left with relatively few, if any African employees in management positions and with a considerable concentration of expatriate manpower at the project headquarters . . . . The minority position of indigenous staff is also not very conducive to a profitable interaction between the expatriate management and the few relatively less trained and less experienced African counterparts."<sup>7</sup>

Integrated rural development policies must attempt to expand the number of trained project managers through both formal training and supervised experience. Projects should be designed to provide indigenous professionals with a broad range of experience in administering rural development activities, and ensure that expatriates work closely with local counterparts in order to leave behind a cadre of trained administrators and technicians capable of manning future rural development projects.

#### Project Management and Technical Training

Until developing nations expand their cadres of professional project

managers and technicians, rural development projects themselves must be used as training vehicles, and thus must have the capacity to organize, implement and evaluate internal training programs for staff, participants and temporarily assigned civil servants. From the World Bank's evaluation of rural development projects in Africa it found that the following factors influenced the effectiveness of training programs in autonomously organized projects:<sup>8</sup>

1. Close expatriate-national interaction in administration of the projects, aimed at replacing as quickly as possible foreign managers and technicians with African personnel, reduces tensions and gives indigenous staff a sense of purpose and an incentive to learn;

2. Administrative flexibility is essential to allow indigenous staff to be assigned increasingly more important tasks without being constrained by bureaucratic rigidities and narrow job classifications. "Only when the programs are able to respond quickly to provide deserving Africans with genuine managerial experience before expatriates leave will the quality of management be maintained," Lele observes;<sup>9</sup>

3. An adequate training budget must be provided to recruit more trainees than the number of potential managerial positions available in order to overcome manpower shortages caused by rapid turnover and attrition.

4. Expert assistance should be provided when unusual difficulties requiring special advice arises during the implementation of the project, but its routine operations should be left as much as possible to indigenous management personnel; and,

5. Management training should provide a constant emphasis on research and evaluation rather than on rigid or standardized management techniques; since integrated rural development projects are experimental and complex the most important managerial skill is the ability to analyze problems and respond with appropriate solutions rather than in applying any particular management principles.

Planning, Programming, Coordination, Monitoring  
and Control Procedures

Regardless of organizational structure--whether projects are assigned to operating ministries, coordinating councils or autonomous implementation units--the executing entity must have the authority and capability to plan and program activities, and to monitor and control their progress within the project area. Ideally, these functions should be joined within a single organization, for planning, programming, coordination and control are basic and closely related managerial activities. Weitz and Rokach found in their studies of integrated rural development in Israel, that success ultimately depends on the ability of the project authority to blend planning with implementation, and to coordinate varied inputs and components. The project implementation unit must have either the budgetary support to execute all activities and components itself or the authority to guide government agencies in making their inputs as needed. "Planning and implementation must be closely interwoven," they contend, "with the plan continuously modified to fit real conditions. The institutional framework must be such that this dynamic interaction can proceed smoothly."<sup>10</sup>

Experience with rural development planning in other countries also indicates that to be effective, it must be directly related to functional activities and to decision-making processes; the stronger the relationship of planning to implementation, the more likely plans are to be relevant and realistic. Since rural development is essentially a site-bound activity, planning can most easily be linked with implementation at the regional level. The United Arab Republic's experiments with regional development, which consciously attempted to vest both planning and implementation responsibilities within single authorities, found that the regions provided a more manageable base for planning than either national or sectoral frameworks, provided opportunities for attaining more detailed knowledge of local conditions and allowed the authorities to exercise greater control over development activities. Plans could

be tailored and projects designed to fit more closely the resources and needs of an area, and since regional institutions conducted the studies and formulated the plans, they could more easily stimulate local interest and support for regional projects.<sup>11</sup> In the Aswan Region, for instance, in order to combine planning and implementation the Development Planning Authority established sector development centers, each responsible for a specific sector of the regional economy. Each center collects data, conducts surveys of resources and needs and identifies, plans and prepares projects, then executes them after they are appraised and approved. A strategy board composed of two staff members of the Authority and two representatives of the national ministries responsible for the sector are jointly accountable for providing staff, material and financial resources for project implementation. Unless planning is done by or directly linked to the organizational units responsible for project and program execution, as in the Aswan region, planning is likely to remain extraneous and irrelevant to policymaking.

An effective project organization must also be capable of guiding and scheduling the resource decisions of participating organizations and of monitoring and controlling its own internal activities. Tasks must be assigned to teams, groups or individuals within the project staff. At the same time procedures must be created to secure facilities, equipment, land, labor, supplies, financial resources and technical manpower to perform those tasks. Progress is measured by control techniques that monitor project performance and the likelihood that results will meet planned objectives.

In designing the planning, coordinating and monitoring procedures for project units, however, as Belshaw and Chambers found in their analysis of the Kenya's Special Rural Development Program (SRDP), techniques must be simple, appropriate to local conditions and needs, and directly related to programming decisions. Rural development planning must use analytical methods and procedures appropriate to the skill levels

of indigenous planners and to the capacity of local policymakers to understand their results. Too often planning is unnecessarily oversophisticated, aimed more at satisfying the methodological rigor of scholars or the requirements of international funding agencies than at meeting the needs of national and local decision-makers for useful information and recommendations for action. Overly sophisticated or needlessly exacting procedures can hinder rather than facilitate decision-making. "The perfectionist planner and the intellectual academic are both susceptible to recommending yet more planning--more detailed and specific statement of objectives, the generation and analysis of more data, the identification, elaboration and choice between more alternatives," Chambers and Belshaw observe. "But planning, like politics, is the art of the possible; and perfectionist planning is liable to have two unfortunate effects: generating an insatiable appetite for planners, who are far from costless; and reducing the chances of anything happening on the ground."<sup>12</sup>

Their involvement in African rural development planning led Chambers and Belshaw to the conviction that effective planning must be appropriately tailored to the constraints in rural areas. They argue that simple procedures and usable techniques do assist policymakers and administrators in analyzing their problems but that the temptation to introduce ever more complex requirements and measures, more elaborate models and more sophisticated analytical tools in many cases, simply paralyze activity. "Ingenuity and courage are needed," they contend, "to devise and use simplification--through quick and dirty surveys, through collapsing data, through rules of thumb, through the use of proxy indicators--accepting imperfections and inaccuracies as a price it is worth paying in order to improve outcomes."<sup>13</sup>

Appropriate systems are especially important in programming and management control, for overly sophisticated schemes will not only fail but may be perverse, causing serious problems and delays in project implementation. The main principals of an appropriate system of programming and review,

tested in Kenya and found highly successful, are that: 1) all those responsible for implementation should be required to follow joint programming procedures; 2) staff should take part in setting their own work targets with flexible supervision from the project's managers; 3) collegial sanctions for poor work should be encouraged rather than punitive measures by project managers; 4) reports should be "lean and functional" encouraging those who are reporting to summarize essential information and recommendations for action rather than dwelling on justifications for a mistake or delay; 5) communication should be direct from the implementor to those responsible for a constraint without filtering requests through multiple layers of bureaucracy; and 6) meetings should be functional and used sparingly.<sup>14</sup>

Among the most important and least carefully considered functions of programming is the transfer of project activities, methodologies, and outputs to regular administrative agencies in order to ensure that services to beneficiaries are continued when a project is completed. Lele points out that African rural development projects faced two types of transfer problems: ". . . some components--such as roads, soil conservation, boreholes, community development, health clinics, housing and training--involve transfer of responsibility to the regional or local government administration. Others (as, for instance, input and output marketing as well as credit distribution) involve transfer of responsibility of a commercial nature."<sup>15</sup> The ability of the project implementation unit to steadily transfer functions to operating ministries, provincial and local government units, and private organizations is essential for strengthening the administrative capacity of public agencies in developing countries and for building institutional infrastructure in rural areas.

#### Procedures for Local Participation

Local participation in project planning and implementation is almost universally identified as an essential input for rural development, for

participation not only increases the probability that local problems and needs will be expressed in the design and administration of rural development projects, but that the results of the project will be more widely disseminated and more effectively used. Ultimately, it is the dissemination and use of those outputs that generates economic and social transformation. The more successful experiments in rural development have involved local leaders and rural communities directly in major activities. Evaluators note that a primary factor contributing to the success of the Lilongwe project in Malawi, for instance, was its ability to involve both tribal units and their chiefs in the project's operations, encouraging the chiefs to serve as members of the land board overseeing implementation of one of the project's vital activities.<sup>16</sup>

The ability to elicit local involvement depends primarily on the attitudes of project staffs and on efforts which they make to provide local residents with opportunities for participation. The success of the Comilla project in Bangladesh for example, was attributed to the belief of staff members in the value of rural life, the basic wisdom of local farmers concerning agricultural processes and cultural traditions, and the ability to improve rural conditions through solution of problems at the local level.<sup>17</sup> Studies of small farm rural development projects in Latin America and Africa show that participation by farmers can lead to ideas for more effectively designing projects, particularly those components dealing with agricultural production techniques; they can help to adapt components tested and proven successful in other projects to local conditions and needs; and they can test new technologies and organizational arrangements prior to introducing them on a broader scale.<sup>18</sup>

A survey of more than 80 projects for small farm development in rural areas of Africa and Latin America found that the following factors contributed to increasing local participation:<sup>19</sup> 1) Geographical boundaries of the projects were well-defined and the client population



easily identifiable; 2) project staff held a series of meetings with local leaders and farmers, delegating to them participation in or control over decisions concerning project design; 3) farmers were involved jointly with project staff in testing technological packages and organizational arrangements to be used in the project; 4) participants in subprojects were generally homogeneous in terms of social group and economic class; 5) the project staff developed an effective communication process with and among local participants; 6) organizational arrangements were created to give farmers a voice in decisions concerning project management; 7) high priority was placed on technical training of participants and many were used as paraprofessionals to teach others technical skills; 8) involvement was related initially to single purpose activities, such as credit provision or crop promotion, and later broadened; 9) systems of accountability were established to permit changes in leadership among local participants and to ensure that services were provided efficiently; and 10) opportunities were offered initially for local organizations to participate in income-generating activities.

In brief, experience with rural development indicates that success depends on good organization, the clear assignment of responsibility to an executing agency staffed with well-trained manpower, sufficient resources to coordinate and integrate technical and administrative inputs in the project area, effective procedures for programming, monitoring and control, and with procedures for involving local people in project planning and implementation. But since projects are, by their very nature, temporary and narrowly focused activities, they both depend on and should contribute to the organizational infrastructure and administrative capability of the public and private sectors in the areas in which they operate.

## LOCAL SUPPORT COMPONENTS

The success of even those rural development projects with strong political and administrative support at the national level, and well organized to deliver a wide range of technical inputs, depends in large measure on the support of public and private organizations in rural areas. At the same time, the projects themselves should contribute to building rural organizational capacity and to diversifying social and economic activities. Sustaining social and economic transformation in rural areas requires strengthening local government's capacity to plan for and manage public facilities and to deliver basic social services. Local political leaders and elites must be committed to the goals of rural transformation, and productive and social infrastructure-- agricultural research units, public utilities, nonagricultural industries and commercial activities, repair and maintenance services, basic housing and shelter and roads and highways--must either be in place or developed in order for integrated rural development projects to increase production and income levels. Where they do exist, projects must be designed to provide these basic inputs prior to undertaking more sophisticated or complex activities. Indeed, the three other sets of components--national policy and organizational inputs, technical inputs and programmatic inputs for project organization and implementation-- should all focus directly on building the capacity of governments and private institutions to sustain rural transformation.

### Local Government Capacity and Political Support

Local governments play varied, but critical, roles in rural development. The Cornell Rural Development Committee found, in case studies in 18 countries, that local governments can be important channels for executing national policies, plans and programs. The functions they are assigned include:<sup>20</sup>

1. Planning for and administering a number of national services and facilities at the local level;

2. Providing small-scale infrastructure, irrigation and drainage facilities;
3. Coordinating a variety of public and private development activities, sometimes through direct action and other times through regulation, within their jurisdictions;
4. Budgeting and allocating local and national revenues for municipal operating expenses and small-scale capital investments;
5. Collecting local taxes, levies, and other revenues;
6. Arbitrating local conflicts, processing claims, channeling requests and demands to higher levels of government;
7. Managing small local and provincial projects;
8. Providing a communications channel between national and provincial governments and local communities and private organizations;
9. Allocating resources for self-help programs; and
10. Providing basic social services such as education and health, and maintenance of roads and public utilities within their jurisdictions.

Evaluations of rural development in The People's Republic of China, India and Pakistan, moreover, indicate that local governments can perform broad political mobilization and popular participation functions, including the extension of institutional procedures for local participation in decision-making, strengthening communication links between modernizing urban enclaves and more traditional rural places, expanding local leadership opportunities and encouraging politically responsible and socially conscious bureaucracies in rural areas.<sup>21</sup>

But, in few developing nations, do local governments perform these functions effectively. In many, local government is the least capable organization in the national institutional structure, ignored by central government and local populations alike. Its effectiveness, at least

in the People's Republic of China, India and Pakistan, was found to vary directly with the financial and administrative capabilities of local officials and with the degree of political support received from the national government. "If the local political system has the unfaltering political support of the national leadership and is regarded as a significant instrument in the developmental process, then its overall impact on the society will be far-reaching. Conversely, if it is merely an extension of field administration or is dominated by the bureaucracy its role performance will be limited in scope," one analyst found. "Furthermore, the rural local government needs to have the financial and administrative capabilities for effectively performing the role of implementing development programs. The formal delegation of functions which is not accompanied by the capacity to mobilize resources and administrative skills will not suffice to make rural local bodies important instruments of social action."<sup>22</sup>

But local governments in developing nations are generally so weak, that they have not been able to provide adequate support for rural development projects. Hence, from the outset, policies must attempt to overcome some of the basic weaknesses in local governments if they are to sustain the process of rural transformation. Among the problems to be overcome are:

1. Poor tax collection systems. In most countries the majority of local revenues are generated by taxes on commercial activities, vehicles and social transactions amenable to licensing or regulation. Few local governments have been able to create and maintain a large and diversified revenue base from which to finance development activities.

2. Dependence on central governments for revenues. The weak position of local governments in relation to other public institutions often stems from their dependence on central agencies or legislatures for appropriations. Where municipalities have been dependent on central governments for capital investment funds, improvement projects are often funded through "pork barrel" allocations made by political

connections and influence rather than by development priorities.

3. Lack of effective revenue sharing mechanisms. Problems resulting from poor tax collection systems of local governments and their dependence on the central government are further aggravated by the ineffectiveness of revenue sharing systems in developing nations. The situation in Paraguay, described in one AID survey, is typical of the problem that local governments face in a number of countries: ". . . there is little concept of sharing resources between the central government and the municipalities. Thus, nearly all monies raised by the central government are spent in Asunción. On the other hand, the municipalities lack sufficient know-how to utilize their independent taxing power."<sup>23</sup>

4. Dependence on the central government for approval of operating and expenditure decisions. Most of the limited resources raised at the local level in developing countries are used to pay the salaries of local officials and for recurring expenses. Decisions concerning capital improvements usually must be approved by higher levels of government and are dependent on funding through central agency budgets. Again, the situation in Paraguay is typical. "There are virtually no revenues for investment in municipal improvements," an AID evaluation points out. "Any improvements are necessarily spread over a long period because of antiquated methods of planning financial needs and anticipated revenues. The planning process is basically the yearly budget submission which is at best a rough estimate of expected funds."<sup>24</sup>

5. Poorly trained local officials. In most countries of Asia, Latin America and Africa local government officials are poorly trained and demonstrate little knowledge or skills in tax collection, budgeting, record keeping, planning or service delivery. Training programs are sparse and sporadic, often with little follow-up to assure that what limited training local officials do receive is put into practice.

6. Staffing through political appointment. Finally, in a number of countries local officials are appointed by the central government,

usually on the basis of political loyalty rather than on administrative ability and experience. Political appointees, in turn, usually appoint their own cronies to lower-level administrative positions. In countries such as Bolivia, which, for political reasons, has a high turnover rate of mayors, there is a tendency for each new mayor to staff key positions with people loyal to him, usually those with little or no previous experience in government. Few reliable records of government activities and transactions are kept and each employee takes whatever experience has been accumulated with him when he leaves the job.<sup>25</sup>

In most countries a strong argument can be made for including in rural development projects municipal development components, training programs for local officials and institution-building activities, not only to expand administrative capacity of local governments, but also to solidify the political support of local officials for the project's goals and activities.

#### Basic Health and Social Services

Low levels of rural welfare and productivity in developing nations have multiple and complex causes. As a result, social and health services are usually defined broadly, to include immunization against disease, provision of rural clinics, potable water supply, improved household and living conditions, and upgraded diets. Rural housing and sanitation programs, and education and training endeavors are also sometimes included. Unfortunately, information on the role of social services in rural development is ". . . sparse and provides little systematic evidence, either on the impact of these various social service interventions on rural welfare or productivity," Lele notes. "Nor does much systematic analysis exist of alternative technical and administrative choices in the provision of social services or of the effect of these choices on the costs of organizing social services."<sup>26</sup>

Farm families undertaking heavy labor are especially susceptible to

diseases, in the absence of health facilities and programs. In Kenya, for example, both adults and children commonly succumb to malaria and parasites, debilitating ailments that can be easily overcome by simple preventative treatment at a local dispensary and through the use of inexpensive water filters.<sup>27</sup> In many rural areas, proneness to disease is exacerbated by local food shortages and inadequate nutrition. Indeed, insufficient food, susceptibility to debilitating diseases, and lack of nutrients form a cruel, self-sustaining cycle. Moreover, increasing evidence shows that malnutrition and mental deficiency are closely related.

Nutritional improvement programs are fundamental to integrated rural development. These are best focused on rural women--who are frequently in charge of the dooryard garden, where initial crop innovation experiments are made. This is particularly important where development programs emphasize commercial cropping. In the absence of increased cash surplus for purchasing foodstuffs, simple methods of preservation--such as sun drying of fruit and vegetables--maintains food value, prevents food poisoning, and helps eradicate the "hungry season." Perceptions of prestige with regard to foods can also lead to nutritional problems. In northeastern Tanzania, for instance, surveys have found that the increasing prestige of cabbage over wild spinach has limited vitamin A intake.<sup>28</sup>

Available data suggest a large latent demand for rural social services, but the main constraints on increasing them are the limited financial, manpower, and organizational resources available for effective service delivery. In view of limited resources in most rural areas social services should only be provided prior to productive investments where additional financial resources can be raised locally to cover their costs; social choices regarding local allocation of resources are related to the residents' willingness to pay for them; a low-cost delivery system can be organized to use locally available talents; and a high level of local input into the planning and design of social

services is possible. Local resources are often provided enthusiastically for health and social service projects, as is reflected, for example, in the eagerness with which people donate their labor to school and clinic construction.

Although the costs of social services can be reduced by using "barefoot" doctors and paramedics, and traditional, communal work organizations, such programs are frequently hampered by organizational constraints. Some services, such as potable water supply involve considerable capital costs and technical inputs and the high recurrent expenditures involved in providing such physical facilities as school buildings and health clinics may create insupportable recurrent expenditures.

#### Agricultural Research and Experimentation Units

Research stations and agricultural laboratories of governments, universities and agro-industrial corporations are the main sources of technological innovations in rural areas. But in most countries these high-level institutions maintain little contact with extension services and with ultimate users of their products. Those small-scale farmers aware of the work undertaken in such places usually find it irrelevant to their particular needs.<sup>29</sup>

To support rural development, a hierarchy of agricultural research and experiment stations is required. A national institution concerned with capital intensive agricultural technologies, chemical fertilizers, heavy machinery, aerial dusting, hybrid seeds, export crops and the management of large farms, among other things, is needed and it should be complemented by an agricultural statistics and documentation service and national institutions of nutrition and public health. But researchers in national institutions are members of a scientific community who



disseminate their findings through scholarly publications, and their choice of research is usually guided by personal interest, academic curiosity, donor priority, or from a concern with meeting international commodity standards. Invariably interests are externally oriented rather than concerned with filling local knowledge gaps and solving the problems of local areas.

Although they play a vital role in the growth of agricultural productivity in developing nations, national institutions can be made more relevant by focusing on the needs of the small farmer, such as by coordinating national studies on traditional crops and agricultural technologies. If modern technological innovations are to be effectively diffused to the small-scale user they must be made culture- and site-specific. This entails considerable research and experimentation beyond the capability of extension agents and requires creating smaller-scale centers located in rural areas devoted to working on agricultural problems of local communities.

The mandate of a rural agricultural research and experimentation unit should be to undertake adaptive research, tailoring complex technological recommendations to the specific needs of small farmers. Adapting technologies to local conditions requires extensive field testing, which leads, as DIA's report points out, to recommendations that "account for local physical production constraints such as land, water and weather conditions . . . [and] would permit researchers to document more precisely the interplay of conflicting demands and/or impact of the new technology on farmer strategies of response to fluctuation in product prices, labor supply, credit availability and other contingencies." Finally, local testing would involve detailed data collection, and a "continuing dialog with . . . the small farmers."<sup>30</sup> Above all, the local research unit should be in the vanguard of developing innovative cropping systems and farm technologies that would combine advantages of traditional practices and modern techniques.

Several examples of this type of local adaptive research can be found in developing countries; the Puebla project in Mexico, the Cáqueza project of Colombia, and a potato scheme in Bolivia being particularly noteworthy. Agricultural experimentation on the Puebla project has identified fertilizer uses for 16 different physical microzones of the region and evaluated the performance of new hybrid maize varieties. Several technological packages were adapted on the Cáqueza project for both hybrid and traditional maizes; and on a Bolivian potato production and seed improvement project, five technological packages especially adapted for variations in altitude, availability of water and seed variety were developed for small-scale cultivators.

Evidence from many developing countries clearly indicates the vital role that agricultural research and experimentation units can play in rural development. That role can be enhanced if local units concern themselves specifically with means for adapting technology, credit, cooperative and other inputs to local conditions.

#### Nonagricultural Industry and Commercial Activities

Although the majority of industrial enterprises in rural areas are generally agro-industries, there is an urgent need to create additional sources of employment. As a region begins to grow it requires a greater diversity of small-scale industrial and commercial enterprises to absorb underemployed and unemployed manpower. Nonagricultural industries both support the rural development process by supplying essential goods and new inputs, and by providing alternative employment. Progress in rural areas also requires basic public transportation systems for moving goods and people as agriculture becomes commercialized and social and economic linkages are established with other areas. Certain basic commercial services are also important prerequisites to rural development. These include banking, insurance, brokerage and marketing facilities, along with other basic financial and business services, retail outlets supplying foodstuffs, clothes, footwear and

other essential goods, and medical, public, and social services.

### Housing and Shelter

A review of rural development literature indicates that although there is a great need to upgrade the quality of housing in rural areas, development can proceed without major housing programs. Although construction is clearly an important employment-generating activity, demanding only relatively low skill levels, the upgrading of rural dwellings is probably best facilitated by self-help assisted by site-and-services programs. The self-help plus site-and-services approach to filling rural housing needs has a number of distinct advantages over low cost and prefabricated housing schemes. In economic terms, self-help is considerably cheaper; data from the Philippines, excluding land and amenity costs, indicate that a low-cost house constructed on its own site is 25 percent cheaper than a prefabricated version, and, in addition, generates more local employment. This is substantiated by other data showing "that prefabrication on a national level is advantageous only if some 80-90 percent of total housing is done with standardized prefabricated elements."<sup>31</sup>

Advantages of a self-help plus site-and-services scheme are that it is flexible, represents a relatively low capital investment, and easily adapted to changing conditions as a region gradually develops. Philippine research shows that a low-income urban house evolves over some 20 years from a shanty to a "standard" dwelling unit. "Thus, squatters' housing should be considered not as permanently 'temporary' housing but as a process which, if properly encouraged, could easily evolve into socially acceptable housing. If, instead, these squatter communities are bulldozed away, barring health or fire hazards, such actions may unnecessarily destroy capital and the foundation for productive living by substantial numbers of families working in the services sector."<sup>32</sup> No comparable data are available from rural regions, but there is little reason to expect substantial differences.

Provision of water, sewerage, and roads ensures a minimum level of health and social services, which in combination with basic nutritional and medical programs can improve the quality of rural labor.

The requirements of the larger places in the settlement hierarchy are somewhat different. Residential and non-residential buildings of modern design and materials are required and a higher level of site-and-services called for. Those demands can support a viable local construction industry, which, with its many backward linkages, can be an important stimulus to the local economy. A healthy construction industry based in an intermediate-size city is essential to a regional economy; it can provide the opportunity for technological choice and the use of labor-intensive methods employing relatively unskilled labor. Moreover, being site-bound, construction also implies a heavy bias toward the use of local labor and materials--providing a relatively high level of domestic value added.<sup>33</sup>

#### Repair and Maintenance Services

Repair and maintenance services are commonly neglected in developing countries, yet the failure to maintain infrastructure, transport, mechanical and other inputs in rural areas can mean both an enormous waste of scarce resources, and the deterioration of existing facilities required for further development. Maintenance is commonly neglected both because of the lack of trained manpower and the difficulties of obtaining recurrent expenditures to maintain and repair facilities and equipment.

In addition to prolonging the useful life of assets, creation of specialized repair and maintenance capability, coupled with local production of spare parts, contributes to development by: 1) helping to create a local capital goods industry and by promoting national technological development; 2) creating a stable and skilled labor-intensive industry; 3) stimulating rural non-agricultural

industrialization through small-scale, disbursed production and sub-contracting; 4) reducing the cost and wasteful duplication of large-scale industry by eliminating the need for each major plant to have its own repair and maintenance facilities.

The problems caused in developing countries by inadequate maintenance is typified by the case of Kenya, where, it is estimated, that some 50 percent of tractors and other farm machines are out of order at any one time, owing in large part to the lack of skilled maintenance and repair personnel. It is estimated that 2.5 million pounds sterling could be saved each year if this machinery could be returned to service.<sup>34</sup> Industrial plants require such disproportionately large repair and maintenance facilities in developing countries because this service generally has failed to develop.

Small repair and maintenance shops could be scattered throughout a rural region. In smaller settlements they would perform more generalized functions, whereas in larger towns and intermediate cities they could provide more specialized services. Empirical data show that such small enterprises save capital, principally by renting expensive equipment from larger shops, and also by pooling funds to enable artisans to jointly purchase larger tools. Besides being relatively low-cost and using capital more efficiently than do the larger shops, the small-scale repair and maintenance workshop can serve as a focal point for diffusing new technology throughout rural areas. To be successful at the local level, these services must be complemented by local production of simple spare parts and tools, and by the expansion of training schools for mechanics.

#### Physical Infrastructure

Investments in physical infrastructure and public utilities usually include highway, drainage irrigation, water supply and sewerage systems, public office buildings for health, education, security services,

regional development programs; governmental services, banks and community centers. Except for the infrastructure of totally planned land settlement schemes and new town developments, the term does not generally include retail stores, warehouses, workshops, hotels, and the like which in most rural development projects come from private investment. Although comprising part of a comprehensive infrastructure required for self-sustaining, balanced development, they are not usually early inputs. Building physical infrastructure and public utilities for development is complicated by the nature of human settlement which over much of the developing world, is widely scattered complicating the extension of utilities and services. Where capital is scarce, hierarchical nucleation into small towns and villages makes physical development less costly.

Roads are perhaps the most crucial public investment in rural development projects. In 14 of the 24 Latin American projects surveyed by Nelson, roads absorbed an average of 38 percent of the total investment. Highway construction and upgrading is usually justified in terms of both overall development and user benefits.<sup>35</sup> AID estimates of road construction plans in Nicaragua, for example, show that by the extension of access roads, efficiency was increased, costs reduced and agricultural production raised. In Nicaragua, farm transportation costs were reduced by 50 percent by switching from pack animals to motor vehicles.<sup>36</sup>

In addition to direct economic gains, less easily measured social benefits result from communication infrastructure. "Access to amenities in other centers reduces isolation, improves living conditions," and, as Nelson notes, "makes frontier areas more attractive to qualified teachers, doctors, and other professional personnel."<sup>37</sup> Among the social benefits of transportation observed in Malaysia is that improved access accelerates the rate of immigration to pioneer areas.<sup>38</sup> In the "spontaneous settlements" of Bolivia, Colombia, Ecuador, and Mexico studied by Nelson, similar trends related to access improvement were

observed.<sup>39</sup>

Although the exact nature of social benefits from road development is more difficult to specify, certain critical changes can be discerned. Principal among these are: 1) once major highways and access roads have been built all other programmed developmental inputs can be made in a phased and additive manner; 2) the adoption and diffusion of new agricultural technologies is facilitated; 3) in most instances the productivity of agricultural, agro-industries, and cottage industries increase markedly; 4) local transportation facilities improve substantially, truck and minibus and other low-cost transportation routes considerably increase the mobility of people now limited to horseback and pack animals, and fares are low, permitting people from small communities to sell small quantities of produce in the nearest marketplace; 5) improved mobility for the hitherto isolated countryman means access to "information," a powerful force in promoting development; 6) the most important social changes following road construction are access to medical facilities and schools. AID's agricultural assessment of Nicaragua reveals that if children can travel to the nearest small town and then be required to take three years of formal schooling, they will be equipped, by the age of fifteen, to follow basic agricultural courses, with incalculable impact on regional agricultural development.

Considerable controversy surrounds the role of highways and roads as instruments of development, particularly in pioneer zones. Although a strong case is sometimes made that without complementary programs little or no development will occur, the evidence supporting this position is mixed.<sup>40</sup> Where there is no initial growth or development, a single transportation project cannot be expected to accomplish much." Wilson continues: "It is in this type of situation that a coordinated set of investments, inducements, and policies is most essential and where prospects of success from a single project of any kind are very low. Growth promotion is a fundamentally different and more difficult

task than its facilitation and normally requires a more careful appraisal of non-economic factors as well."<sup>41</sup>

Empirical proof of the impact of highway investment is not easily obtained, but in Latin America there are many examples of development following construction of a penetration highway, and of the virtual absence of complementary activities at least in the early stages. In the Lower La Lana - La Trinidad Basin, located on the southeastern edge of the Papaloapan Basin of Mexico, it appears that "the roads, which took 30 percent of the colonization outlay, were largely responsible for stimulating private investment in agriculture that paid handsome dividends," for relatively few other public investments were made.<sup>42</sup> In the Caranavi "spontaneous colonization" scheme of Bolivia, 90 percent of public and 50 percent of private total investment was devoted to constructing 170 km of trunk highway and 115 km of feeder roads. In the Puyo-Tena Zone of the Ecuadorian Oriente, a successful tropical colonization venture was brought about by: 1) capitalizing on a network of pre-existing privately constructed access roads (built by the Shell Oil Company for petroleum exploration); 2) providing key services, especially credit, after demand--initially promoted by roads--grew; 3) providing agricultural extension services; 4) and granting title to land. With a total government investment of only \$5 million, the thriving region supported (1968) some 35-40,000 people who occupied some 280,000 ha (15,000 in crops and 80,000 in pasture); raised 20,000 head of cattle; and supplied the labor for 2 large tea plantations, 20 sawmills, 4 distilleries, and other commercial and service industries. Data for private investment are not available.<sup>43</sup>

On the other hand, some projects have clearly failed in spite of the complementary services accompanying highway development. Examples are the Mexican Quintana Roo project and the Cotoca scheme in Bolivia.

Evidence from Nelson's survey indicates that inputs complementary to highway development may have less impact initially than in later stages



of a project. Where the primary objective of a highway is to open new areas to settlement associated programs should be kept at a low level until spontaneous colonization has taken place along a new highway. This notion is clearly controversial, generally eliciting a three-fold objection: 1) that it causes unwarranted sacrifice and hardship for initial settlers whose welfare and productivity could be enhanced from the very beginning by complementary inputs; 2) unless settlement is quickly expanded (and production and traffic grow), through the added inducement of services, it will be hard to justify investment; and 3) uncontrolled settlement leads to irreversible destruction of natural resources.

Roads are needed to move inputs and outputs efficiently and to link human settlements in a well-articulated spatial system. But, the overriding objective in selecting roads for construction or upgrading should be to enable a development center to serve the greatest number of families living in its hinterland at the least cost. A road system seeking to link settlements of different sizes in a spatial system should comprise four main elements: Arterial routes to integrate all regions of a nation; feeder roads linking to the arteries, joining market town with the intermediate city; rural access roads, traversed by trucks and rural buses to link villages to the nearest market town; and bullock cart routes and bicycle paths to link farmstead and hamlets with the nearest central village.

Because of the "high visibility" and therefore political impact of major arterial routes, feeder roads are generally neglected in land settlement programs. In many areas feeder roads should be given top priority in order to consolidate gains already made, a point stressed in colonization projects financed by the Inter-American Development Bank. Again, although no definitive data are available, it appears that the density of feeder road development is positively correlated with higher levels of development

Perhaps the greatest problem with feeder roads, especially in humid tropical climates, is maintenance. Access roads should be constructed to all-weather standards, and built to permit the passage of heavy equipment and truck traffic, particularly during critical planting and harvest times. Nevertheless, consonant with both quality and cost, they should be built primarily from locally available materials, utilizing as far as possible local labor for both construction and maintenance. Creation of regional road maintenance zones and material dumps, and the training of local personnel in road upkeep is as important as road construction. Data from Latin America underscore the critical importance of local labor and administration in maintaining feeder roads.

Clearly feeder roads are most efficiently maintained by municipalities, but in most developing countries local governments are poorly organized, and, in pioneer zones, virtually non-existent. In the initial stages of rural development the central government must prevent local roads from deteriorating, while at the same time organizing municipal maintenance capacities.

Of all physical infrastructure investments in rural development road construction and improvement should command high priority, for, "a road system is something more than prepared surfaces on which porters, pack animals, or wheeled vehicles . . . can move." It can, Johnson contends, "become a unifying instrumentality that consolidates the productive power of an area and releases a latent social dynamism." A properly planned spatial system of nodes and linkages must aim at ameliorating the major economic and social problems of rural underdevelopment: "This is why," Johnson notes, "a regional transport plan must be more than a farm-to-market network. It must be a set of commuting configurations and a number of 'through' roads that can connect 'functional economic areas' with other such spatial organizations and link peripheries with core-region centers, in ways that will make them complementary rather than dependent, coordinate rather than satellitic--a wholesome relation that [developed] countries such as

Denmark and the Netherlands have demonstrated to be quite possible."<sup>44</sup>

#### CONCLUSION

This review of experience with rural development projects undertaken during the past two decades highlights the enormous variety and complexity of components needed to put a self-sustaining strategy into operation. A myriad of functions and services must be provided by public and private organizations at the national, regional, and community levels. Strong support must come from the national government in the form of political and administrative commitment to the goals of increasing agricultural productivity and redistributing income and wealth. In addition to delivering an integrated package of technical inputs, projects must also enhance the capacity of rural communities to sustain social and economic transformation.

The critical questions now become: How do developing nations extend this complex package of services and functions to rural areas? How do they create a network of urban and rural development centers linked together in a spatial system that provides the services and facilities needed to generate and sustain rural transformation? Chapters 6 and 7 address these questions by identifying the types, scale, and location of services and facilities needed at each level in a spatial hierarchy and the linkages among spatial centers that integrate spatial systems.

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## CHAPTER SIX

### THE SPATIAL CONTEXT FOR INTEGRATED DEVELOPMENT STRATEGY

Location of physical infrastructure, productive activities and social services and facilities is at the crux of development strategy, and defines, in large measure, the problems faced by a society attempting to promote growth with equity. Location decisions, it was noted earlier, can both constrain and provide opportunities for development. Although the location of individual projects is often specified in national development plans, only recently have such plans and international assistance policies, considered the spatial relationships among projects and analyzed their effects on development. But for resource-scarce developing countries, the potential multiplier effects derived from locating social services and productive facilities strategically to create and benefit from integrated spatial systems, are crucial. Therefore, the impact of any project must be measured not only by its economic returns, but also by the opportunities it creates for additional investment and economies of scale and by its contribution to a strengthened spatial structure.

Because integrated development strategies seek both economic growth and social equity, a more balanced spatial distribution of investment takes on new importance. The productivity of economic and social activities is strongly determined by their location and by those of related investments. Integrated development policies recognize, moreover, that the increasing disparities between the richest and poorest regions, and the wealthiest and most poverty-stricken people, can largely be attributed to uneven access to productive activities and social services. The problem of disparity has arisen because most developing nations have poorly articulated spatial systems in which a vast, sprawling primate city or a few major metropolitan areas have little or no relationship to numerous villages and hamlets scattered over the rural landscape. Human settlements are not linked together in a national

economy and the spatial systems in developing countries are not conducive to fostering development, or to equitably distributing its benefits. And because neither the components of existing spatial systems are integrated, nor their potential functions clearly defined or well understood, planners cannot locate development projects in a way that will maximize their impact for growth or equity.

Recent policies have moved away from a strategy of concentrating investments in large urban centers, with the expectation that the "trickle down" effects would eventually solve the problems of poverty-stricken rural hinterlands. Trickle down was a naive notion and the wide disparities in the quality of life between modern urban enclaves and their vast rural hinterlands, still remain of central concern to public policy makers. The new development paradigm calls for integration of urban and rural development to spread the benefits of growth and ameliorate the malignant effects of traditional policies that produced "over-urbanization" and rural neglect. But the new approach, although perhaps more beneficent in its objectives, offers a complex set of implementation problems. It demands, above all, that the existing spatial systems of developing nations, within which individual location decisions are made, be thoroughly understood. However unbalanced an existing spatial system, its urban centers, particularly the larger ones, already perform vital functions in the national economy and have influenced the pattern of physical development by establishing a framework for future social and economic investment. "The selection of future service centers, especially at the higher levels, should be one of the main components of a national physical plan and of the regional plans based on it," one theorist argues. "While the choice of future centers will be greatly influenced by the existing pattern of communication, it will in turn largely determine future changes in their pattern. Service centers and communications together provide the physical framework within which economic and social development is taking place."<sup>1</sup>



The purpose of this chapter and the one that follows is threefold. First they review the theories underlying strategies seeking to integrate urban and rural development and to generate spatial structures more conducive to self-sustaining, equitably distributed, patterns of growth. Because in many ways these strategies provide an alternative to classical theories of centralized and decentralized investment, the two traditional approaches are briefly summarized and the rationale for more balanced spatial development is then outlined. Second, because little is known about either the most effective means of implementing a strategy of integrated urban-rural development, or of the types of functions and services performed at various levels in the spatial systems of developing nations, five selected cases are examined. Aspects of spatial patterns in Kenya, Ghana, Peninsular Malaysia, India, and Thailand are described and the functions, services and patterns of linkages among rural hinterlands, villages, towns and cities are identified. Finally both the general literature and empirical data garnered from the case studies are reviewed to explore the spatial distribution of functions and services in developing countries in order to determine how administrative, technical, financial and organizational inputs needed for integrated rural development might be best delivered.

ALTERNATIVE APPROACHES TO SPATIAL DEVELOPMENT---  
CENTRALIZATION VERSUS DECENTRALIZATION

The relationship between urbanization and national development has been the subject of voluminous studies, yet the nature of that relationship is still debated.<sup>2</sup> The emergence during the past 30 years of plans for creating "development centers" in newly independent nations has intensified this debate, but still the question has not been fully resolved, and not surprisingly, few countries have successfully formulated a coherent spatial development policy.<sup>3</sup>

A wide range of perceptions and attitudes regarding urbanization and

its relationship to national development are reflected in the literature. One school of theorists sees urbanization as a cancer in the growth of developing nations, the spread of which must be arrested. Others view urbanization as a necessary evil, and advocate policies that minimize its negative effects. But another school of theory contends that urbanization is a positive factor in development and that policies should reinforce the development impacts of city growth. And yet a fourth group sees cities as a catalytic force in generating development and argues that plans and policies go beyond mere reinforcement to accelerate the pace and spread of urbanization.<sup>4</sup>

Existing development literature generally regards the growth of urban centers in developing countries with alarm. Notwithstanding clearly perceived benefits, some observers consider urbanization in the developing world to be artificial; a "pseudo-urbanization" because ". . . the process has not been similar to one that occurred in the advanced countries at comparable stages of industrialization and economic growth."<sup>5</sup> In the West "the growing cities gradually involved an increasing proportion of the total population until the majority . . . was living in cities and an 'urbanized society' had come into being."<sup>6</sup> Western cities were able to absorb their natural population increases as well as large flows of rural migrants because "the industrial revolution . . . introduced technical improvements which made possible increased productivity in agriculture and allowed rural population to shift to cities."<sup>7</sup> But theorists embracing the pseudo-urbanization argument predict that a great regional "wasteland" will emerge in areas such as Southeast Asia if cities are allowed to grow despite low levels of industrialization, and argue that ". . . certain Asian cities, unhinged from the industrialization that caused Western urbanization, are growing at dangerously fast rates . . . growth of this magnitude may cause serious economic and political difficulties for the nations involved. The provision of infrastructure and employment to accommodate the population polarization that this urban centralization will bring may preclude significant overall economic growth for Asian nations."<sup>8</sup>

The theme is reinforced by arguments pointing out that "the nineteenth century industrial revolution in Europe and North America . . . proceeded at a relatively moderate rate," with new social and economic structures emerging as Western cities grew, but that " . . . the rush to the capitals and metropolises of Africa, Asia, and Latin America is the most intensive, massive and rapid in countries whose natural resources remain underdeveloped and their man-made counterparts--the economic and technical resources and skills--are insufficient."<sup>9</sup>

Those taking a positive view of urban growth challenge the idea that Third World countries are over-urbanized in comparison with industrial nations at a comparable period of development. "For example, when in 1895 the degree of urbanization in Sweden was comparable to that of Asia today (8.2 percent in cities of 100,000 or more), the proportion of the labor force in non-agricultural occupations there was less than 45 percent," Sovani points out. "Even in 1970, though urbanization had increased slightly to 9.3 percent, this proportion was only 51 percent." Other examples are also cited to contest the comparative over-urbanization theory: " . . . in Switzerland, though the proportion of labor force in non-agricultural occupations was 60 percent in 1888, there was no city with a population of 100,000 or more in the entire country at that time."<sup>10</sup> Still others argue that "trade disadvantages and late starts apparently have not precluded urbanization and rapid national development in Japan, Taiwan, and Australia."<sup>11</sup>

Indeed, some demographers question whether towns and cities in developing countries are really growing much faster than other places. In Asia, it has been found that the growth rates of cities in Malaysia, Burma and Sri Lanka were "comparable for all towns throughout the size spectrum."<sup>12</sup> For five provinces in India, larger cities did not have greater population growth between 1951 and 1961; indeed, the rates for small towns in 1951 were comparable with those of larger cities during the succeeding decades. In fact the largest increases occurred in medium-size towns with a population of between 20,000 and 100,000.<sup>13</sup>

Scattered evidence from Latin America also questions the notion that the largest cities are growing most rapidly, for studies of capital cities in Mexico, Cuba and all South American countries except Bolivia indicate that " . . . the capital grows in inverse relation to its relative size . . . i.e., capitals small relative to the populations of their countries will grow more rapidly than relatively large capitals."<sup>14</sup>

Part of the confusion and disagreement concerning the rate of urbanization in developing countries and the impact of that growth on future development arises from the failure to discriminate among nations at different stages of modernization. The World Bank, disaggregating the data and categorizing developing countries into four major types, argues that the rate of urban growth and its future impact varies widely. Attempting to project the pattern of urbanization in less developed countries at the end of the century, World Bank analysts find four distinct categories:

Type I. Those countries in which the process of urbanization is well underway. The population is already more than half urban, incomes relatively high and there is little pressure of population on arable land and natural resources. The end of the urbanization process will occur before the turn of the century when most of the population will be in urban areas and rural areas will begin to experience absolute declines.

Type II. In these countries the urbanization experience is more recent. Over half the population is still in rural areas. Population pressures exist on the land and incomes are at relatively low levels. If population pressures can be eased and resource constraints overcome, this group of countries by the turn of the century should obtain levels of urbanization similar to those found in the Type I countries today.

Type III. This group of countries is predominantly rural but urbanizing rapidly. Even so, by the year 2000 they will still be predominantly rural with high rates of growth of the rural population. The outcome of the race between population growth and resources (and the resulting growth of per capita income) is uncertain.

Type IV. These countries are dominated by severe pressures on the land in largely rural, subsistence-level income societies. If the projected population growth rates are sustainable they will still be characterized in the year 2000 by large and growing rural populations living in absolute poverty.<sup>15</sup>

As Table 9 indicates, the size of urban populations, the level of rural habitation, and the compound growth rates of urban and rural areas vary widely among developing nations.

The debate over whether or not developing nations are "over-urbanized" is unlikely to be settled in the near future. Indeed, since urbanization is relative and its effects can be judged only in terms of existing conditions and precise development objectives, such a subjective argument can never be definitively resolved. But another set of arguments--over whether or not urban growth contributes to national development--continues and is reflected in two opposing theories that impinge more directly on implementing the new development policies. One, which basically views large cities as catalytic forces in national development generally advocates a spatial strategy that centralizes investments, services and functions in the primate city or metropolitan "growth centers"; the other, skeptical of increasing urban growth, argues that cities must be decentralized and investments spread more widely. Arguments over centralization versus decentralization are not merely academic exercises, for one or the other of the theories influences nearly all spatial development plans and investment policies in Third World countries. For this reason, and because the new development strategies draw on elements of both positions, each must be examined in more detail.

#### The Centralization Argument

Concentration of investment in the primate city or a few metropolitan areas has been the strategy most frequently chosen by developing countries, often more by happenstance than design, owing to the influence of previous and external decisions, geographic inertia and a de facto recognition of the benefits of locational proximity.

Historical circumstances in many developing countries determined the concentration of investment in a single primate city. Throughout

TABLE 9: URBANIZATION PATTERNS IN A SAMPLE OF LESS DEVELOPED COUNTRIES

Country	Per Capita GNP Level In 1972 US\$	Size of Population (in 000's)				Percentage of Urban Population		Compound Urban Growth Rate		Compound Rural Growth Rate	
		1975		2000		1975	2000	1970-75	1995-2000	1970-75	1995-2000
<u>Type I</u>											
Argentina	1,290	20,293	5,091	29,288	3,573	79.9	89.1	2.19	1.11	-2.46	-1.66
Mexico	750	37,349	21,855	103,287	28,957	63.1	78.1	4.86	3.60	1.19	0.82
Colombia	400	15,938	9,952	40,115	11,349	61.6	78.0	5.24	2.96	2.58	0.13
Brazil	530	65,128	44,602	161,604	50,903	59.4	76.1	4.72	3.13	1.67	0.31
<u>Type II</u>											
Algeria	430	8,432	8,455	27,205	11,199	49.9	70.8	6.78	3.85	1.52	0.94
Egypt	240	17,822	19,546	42,716	23,726	47.7	64.3	4.20	3.24	1.15	0.49
Korea	310	16,074	17,875	36,019	15,979	47.4	69.3	6.66	2.26	-1.36	-0.68
Philippines	220	15,837	29,468	46,068	47,956	35.0	49.0	4.25	3.66	3.02	0.99
Malaysia	430	3,641	8,666	9,888	12,589	29.6	44.0	3.34	3.28	2.09	0.58
<u>Type III</u>											
Senegal	260	1,262	3,190	3,740	5,013	28.4	42.7	3.89	4.18	1.83	1.47
Ivory Coast	340	994	3,891	3,718	5,899	20.4	38.7	7.02	4.46	1.51	1.54
Nigeria	130	11,419	51,511	40,953	94,008	18.2	30.3	4.67	5.10	2.07	2.36
Sudan	120	2,400	15,782	9,438	31,704	13.2	22.9	6.10	5.43	2.57	2.69
Kenya	170	1,483	11,625	6,458	24,743	11.3	20.7	6.48	5.61	3.38	2.83
Upper Volta	70	502	5,556	1,827	9,828	8.3	15.7	5.01	4.87	1.84	2.10
<u>Type IV</u>											
Pakistan	130	18,939	53,418	65,357	93,170	26.2	41.2	4.45	4.28	2.42	1.53
India	110	132,367	488,742	354,872	748,834	21.3	32.2	3.62	3.92	2.09	1.27
Indonesia	90	26,232	110,284	78,433	171,519	19.2	31.4	4.54	4.01	2.32	1.29
China (Mainland)	170	207,510	630,406	478,404	673,555	24.8	41.5	4.31	2.75	0.84	-0.07

SOURCE: International Bank for Reconstruction and Development, The Task Ahead for the Cities of the Developing Countries (Washington: The World Bank, 1975), p. 7.

most of the colonial world, but particularly in tropical Africa and parts of Asia, European nations maintained a classic relationship with their colonies, with each territorial economy subordinated to that of a foreign industrial economy and forced to concentrate production on raw materials for export. Under colonial domination, industrial development was almost everywhere discouraged. In the late 1950s, however, many countries began a process of industrialization based mainly on natural resources, and import substitution. Valorization of export commodities required construction of facilities for processing raw materials. In agricultural economies this meant establishing ginning plants for cotton lint production, mills to extract palm and groundnut oil, factories to can fruits and vegetables, tanneries for leather and saw mills. But as independence approached, many colonies shifted to import substitution, which was perceived as a logical strategy to correct balance of payments problems by producing locally many of the consumer goods previously imported. These industries would thrive, it was argued, because markets for the products were already established. With incentives to induce local investment by foreign producers of import substitutes, this phase of industrialization progressed rapidly during the 1960s.

But the location of export-oriented and import-substitution investments in developing nations, even after independence, was highly concentrated, and had a profound influence on their entire spatial systems. "The economic enclave character of manufacturing is strongly reflected in the high spatial concentration in one or a few centers in those countries," Mabogunje points out. "The development of manufacturing has, in fact, tended to encourage the rise of primate cities in many African countries."<sup>16</sup> Actually, the situation occurred because of the interplay of a number of forces, relating to both the colonial history of these countries and their continued political and economic dependence on European powers after independence. The effect was to establish coastal sites as capital cities: of the twenty tropical African countries with coasts only one, Kenya, does not have its capital at a port; and

even in most landlocked countries, capital cities serve as a major break-of-bulk point, thus functioning like ports. This had profound implications during the colonial period when commerce and administration were the principal urban economic activities carried out by the port-capitals. First, people with relatively high incomes concentrated in the primate city, creating a ready market for a wide range of imported manufactures, and this attracted the headquarters of most import-export firms to the capital. Secondly, these cities had the best infrastructure, services and facilities, largely because of the political and economic power wielded by higher income groups. Moreover, essential services such as electricity and water supply in primate cities were the cheapest and most reliable in the nation, quite an incentive, therefore, for large industries to locate within their boundaries. Finally, these primate cities became the foci of domestic transport and communication networks both to facilitate greater control by colonial administrators and to expedite the exploitation of raw materials.

The overwhelming advantages of primate cities, and the lack of alternative locations for large-scale projects in most developing countries, lead analysts to argue that major investment must continue to be centralized in metropolitan areas, and that attempts to decentralize urban development would be at the cost of future economic growth. Most of the policies designed to decentralize investment and disperse social and economic functions, some theorists contend, have either not been effective or have had unintended consequences. World Bank analysts conclude that "the fact that the growth of urban areas--and in particular large urban areas--is to be found in all countries whether they have high or low levels of protection or terms of trade for and against agriculture suggests that the impact of such policies may be marginal. Expanding educational or transportation investments in rural areas may raise incomes in rural areas," they contend, but it is also just as likely to encourage migration. Removing protection from industry could encourage a different type of industry, perhaps



more labor-intensive ones which would improve the absorptive capacity of cities and encourage their more rapid growth."<sup>17</sup> Reviewing possible policies to limit rural-urban migration, bank analysts argue that "regardless of how desirable the goal, serious doubt must be expressed about the ability of most governments to have anything but a very marginal impact on the movement of people. The task is too big and the changes are occurring too rapidly to hold out much hope for success of such decentralization efforts."<sup>18</sup>

The assertion that large metropolitan areas in developing nations have excessive and therefore inefficient concentrations of population and investment is strongly challenged by theorists who argue that the highest levels of economic efficiency continue to be attained by investing national resources in the primate city and that by using productivity criteria, "even the largest metropolitan area in the world is likely to be less than the 'optimal' size."<sup>19</sup> Koichi Mera, analyzing the effects of centralized and decentralized investment in Japan, found that whereas interregional income disparities can be reduced by increasing the distribution of industrial capital in less developed regions of the country, interregional equity is achieved at the cost of reduced GNP. He cites comparable studies of industrializing countries in Latin America and Asia and concludes that "large cities are more productive. Therefore, a decentralization policy of investment and population distribution over the country cannot be encouraged, particularly for less developed countries, if the national goal is to maximize the growth rate of national product."<sup>20</sup>

#### The Decentralization Argument

Few advocates of decentralized investment and dispersed development, however, believe that expansion of gross national product should be the major goal of national policy or view economic criteria as the primary standards of strategy design. Decentralization is concerned with spreading development through dispersed investment in the "lower

end" of the spatial hierarchy, of small towns, villages and rural hinterlands. To some degree, dispersal is promoted on its own merits, but in larger part it is a reaction to alleged evils of urbanization. Advocates of decentralized development argue that:<sup>21</sup>

1. Primate cities and large urban areas cannot provide enough jobs for even their own populations and therefore cannot absorb the additional migrants who flow to the cities to seek employment.

2. Because of burgeoning population growth in the largest cities, unskilled or less educated people accept demeaning or low-wage jobs which provide at best a bare subsistence income, and are forced to live in conditions worse than those in rural areas.

3. Rural migrants generally expect to be provided with goods and services that are neither available nor expected in rural hinterlands or small towns, including nonessential foodstuffs, housing, fuel, entertainment and "apparel suitable for city life"; and the lack of these provisions in urban areas is a cause of social alienation and resentment.

4. Growing urban populations place increasing demands on public facilities and services such as health care, education, transportation, electricity, roads, sanitation, police and fire protection, and public administration, which usually are already overstrained.

5. Most of the larger metropolitan areas are budgetarily constrained with either limited income bases or inefficient revenue collecting systems, or both, and unable to provide the level of services and number of facilities required for existing inhabitants, let alone additional migrants.

6. Most metropolises are afflicted with traditional urban infrastructures to which modern ad hoc accretions have been made; and thus are incapable of serving the physical functions of large cities in developed countries. In most cities of developing nations life is ostensibly demoralizing not only for the urban poor, but for the emerging middle classes. City life is thus dangerous to both the

health and welfare of individuals and to the community as a whole because of high levels of crime and the absence of physical and economic necessities.

7. Continued migration to the major metropolises result in the concentration of the urban poor in slums and squatter settlements, adding to the physical deterioration and social demoralization of the city.

8. Continued concentration of people and resources in the primate city and metropolitan areas drains resources from the hinterlands, perpetuates regional income differences and prevents significant growth from occurring in smaller towns and villages, leading to the establishment and maintenance of dualistic economies.

Those and other arguments against concentrated development are reflected in the public policies of a number of countries, especially in South and Southeast Asia, where an overt attempt has been made to decentralize development. "Public investments and interventions choose--to the extent that they are conscious and effective--to divert, retard, or stop urban growth," Dotson observes. "To that end a great range of instrumentalities is brought into play: rural community development, cottage industries, alternative growth poles, satellite cities, new towns and so on. The anti-urban influence extends into political representation, in which rural populations are quite unequally represented. No national policy seeks overall to foster urbanization."<sup>22</sup>

Much of the underlying motivation for decentralization theory is philosophical and lends insight into the aims and objectives of those advocating the dispersal of resources to small towns and rural villages, rather than to large urban places. In its extreme form the theory argues that industry and other investments should be completely dispersed and that only labor-intensive, manual technology should be permitted. This approach is nowhere more clearly expressed as in Gandhi's policy for the development of India. In India, the concept of decentralization,

" . . . in the industrial and other fields, was an integral part of Gandhian theory for self-sufficiency in the preservation of traditional cultural values."<sup>23</sup> Gandhian thought has had tremendous influence on India's regional development as expressed in the Five-Year Plans, industrial location policy, and the emphasis on villages and small industries, all geared to promote dispersed industrialization. As a result, excessive reliance on small-town growth continues to dominate the views of Indian planners.<sup>24</sup> The orientation of the Indian political, administrative and social leadership, moreover, as well as that of the intelligentsia, is clearly anti-urban.<sup>25</sup> As a result of such attitudes " . . . the attempt to bring the whole development ethic into correct spatial focus is likewise seriously obscured by a dichotomizing of development issues along rural-urban lines."<sup>26</sup> This strong anti-urban bias has had a significant impact on regional planning in India. Anti-urban attitudes in India are easily traced to Gandhi's distrust of urban politics; he considered "city dwellers [to be] the agents of exploitation of the people of India--every piece that went into their pockets was tainted money."<sup>27</sup> At the All India Village Industries Association Meeting in 1934, Gandhi launched a program of village industries to build self-sufficient village economies.<sup>28</sup> Although Indian planners do not follow his extreme idealism concerning the self-sufficiency of villages, each with its own theater, school, public hall, and water supply systems, their thinking has been dominated by Gandhi's concept of a homogeneous cooperative community. His thinking was perpetuated by Nehru and by succeeding political leaders.<sup>29</sup> The cleavage between rural and urban is indeed profound in today's India, and seems to have permeated professional and intellectual thinking and attitudes. The few who think differently constitute a bare minority; but some analysts such as Mitra suggest that even Calcutta is not growing fast enough to take full advantage of its economic infrastructure.<sup>30</sup>

Although balanced regional development and the narrowing of interregional disparities have been major objectives expressed in most plans, only

rarely have concrete solutions been proposed. The Indian Five-Year Plans are an exception, specifying means for distributing investment in new industry more equitably among regions, and identifying suitable small-scale industry which is then considered in the context of either rural or small-town development. Nonetheless, Indian planners admit that decentralization efforts have failed, industrial aggregation continues in the large towns and cities, and regional disparities have increased rather than decreased.<sup>31</sup>

The "principle of decentralization" which purports to prevent further over-concentration in large cities and to promote balanced urban and regional growth commonly reflects an over-simplified and partial understanding of the causes of urban agglomeration. Most decentralization proposals involve elements of industrial dispersion, restriction or deflection of migration and creation of new towns in interior regions. Dispersing industry is based on the notion that further investment in large cities reinforces regional disparity and rural poverty. It is therefore recommended that new investment be located at points far enough removed from metropolises so as not to be readily absorbed by growth centers. This notion suggests that existing small- and medium-sized towns in interior regions may offer the most promising locations for relocated industrial investment.<sup>32</sup> Commonly used techniques for implementing industrial dispersion plans include selective licensing, concessionary tax treatment, government loans and grants, and publicly-supported industrial estates.

An alternative approach entails restricting migration to or deflecting it from the primate city or other metropolises by reorienting migrant flows toward new growth centers to which industrial investment has been dispersed; establishing programs of rural land reform and community development to retain agricultural workers; encouraging rural migrants to proceed toward existing smaller- and medium-sized towns; and discouraging migrants from taking up permanent residence in major urban centers by refusing to legalize or provide basic, social and

public services to squatter settlements, and to deny them welfare benefits.

Another aspect of this quest for decentralization is expressed in the development of new towns, modeled on the British "Garden City." The social and economic costs of this form of urbanization however are enormous.<sup>33</sup> In developing countries, new cities--Ciudad Guayana in Venezuela and Brasilia in Brazil for example--have been established in the distant interior. But the motivation for their creation was mixed. The former was developed not only in an attempt to stem the growth of Caracas and other urban areas on the north coast of Venezuela, but also to provide a development center for the exploitation of major mineral resources of the south. The principal factor underlying the development of Brasilia was not so much the desire to relieve congestion in Rio de Janeiro and other centers along the Atlantic littoral of Brazil, but rather to open vast new areas for settlement in the largely untapped interior of that nation.

Regardless of the social and psychological advantages of village and rural life, the hinterlands have few advantages for the location of most economic activities. Their scattered population and relative lack of consumer demand, inadequate markets and scarcity of skilled labor and management, mean that they are frequently without essential services, facilities and amenities. Moreover, most modern factory production systems are not readily adapted to conditions in rural areas. Without strong government intervention the economic forces of concentration will usually prevail over incentives for decentralization.

#### THE NEED FOR BALANCED SPATIAL SYSTEMS-- INTEGRATED URBAN-RURAL DEVELOPMENT STRATEGY

The emerging development strategies seek a middle course between centralized and decentralized investment, and between continued growth

of large metropolitan areas and the scattering of resources among small towns and villages. Clearly, metropolitan areas have been and will continue to be the prime location for major investment by nations concerned with economic growth and modernization. At the same time, both developing nations and international assistance agencies recognize that economic growth alone cannot generate the fundamental transformations required of traditional societies in order to survive in a complex, modernizing world. Promotion of social equity--more evenly spreading the benefits of development--requires deconcentrating investment and strengthening economic, administrative, industrial, commercial and technological capacities of private organizations and governmental units outside primate cities.

But neither highly concentrated nor highly dispersed investment in productive activities, services and public facilities will achieve the goal of growth with equity. Large cities and rural communities both play crucial roles in the development process and their functions as well as those of other components of the spatial system--villages, market towns, intermediate cities, and metropolitan areas--must be strengthened and integrated into a mutually sustaining network of production, distribution and consumption centers. Basic structural imbalances are the primary obstacles to achieving growth with equity, and the "polarized dualism" that now characterizes most developing societies must be radically reduced.

#### The Conceptual Framework for Balanced Spatial Development

Self-sustaining economic growth cannot occur without a well-articulated spatial system composed of dispersed and interlinked central places, performing specialized and diversified production, distribution, consumption and exchange functions. A "developed country," according to E.A.J. Johnson, whose arguments concerning the organization of space in developing nations have directly or indirectly influenced much of current spatial development policy, is one that ". . . has diversified

its economic activities, thereby permitting people to engage in tasks and occupations for which they are best suited by aptitude and training. It has availed itself, whether by invention or adoption, of enough modern technology so that the productivity of its work force is of a high order, and it is this degree of productivity that permits the earnings of producers for goods or services to be sufficiently large so that average consumption insures a satisfactory standard of living." The entire economy is integrated through an interdependent market structure with infrastructure and services dispersed enough to allow accumulation of savings and encourage investment. Part of the accumulated capital is used to maintain existing productive capacity and part is invested in new productive assets and social services. Development is reflected not only in an integrated system of production and exchange but also in the relatively easy access to opportunity afforded to individuals. "Even though there may be very great differences in wealth and income," Johnson observes, "a developed country will normally be more egalitarian than one less-developed because both the incentives and the opportunity for increasing status are present in societies that put a premium on achievement."<sup>34</sup> Historically, Johnson argues, the key to economic development in industrial societies was the relationship between urban centers and the countryside, and in the emergence of a spatial pattern in which conveniently located central places, especially market towns, stimulated the commercialization of agriculture and facilitated an efficient exchange of goods and services.

In the early stages of the growth of industrial nations, market towns emerged in a regularly dispersed pattern over the landscape, performing functions essential to an expanding economy. They provided institutionalized markets for surplus agricultural products and supplied goods and services--farm implements, livestock, clothing, crafts--which farmers could exchange for their produce or buy with its proceeds. Larger towns grew at transport crossings, providing channels for shipping agricultural goods to more distant places, and accommodating facilities for small-scale processing and manufacturing. Market and



distribution centers also afforded locations for specialized and skilled craftsmen to produce goods needed on farms. These places provided nonagricultural activities, employment opportunities for laborers displaced by increasing farm efficiency, and offered nonformal education and apprenticeship training in a wide variety of skills. As interaction increased between farmers and town residents, the towns became social as well as service centers and market places. As markets widened, some towns grew and developed commercial ties with major urban centers, further extending trade networks for agricultural products and manufactured goods. Thus, market towns served as important linkages between urban and rural economies.

As exchange developed and agriculture became more commercialized, the number of central places grew, offering farmers competing local markets for their products. Competition brought higher prices, and increased incomes which generated both greater demand for industrial goods and commercial services, and expanded savings and investment, permitting farmers to buy better livestock and equipment, to specialize in various products and to increase efficiency and productivity. Increased demand and investment stimulated new manufacturing and commercial ventures, diversifying the economic base of smaller towns and allowing them to grow into medium-size cities, more closely linked to both the rural areas and larger centers. Middlemen and traders found in the market towns both a need for their brokerage services and opportunities for new enterprises such as warehousing, storage, shipping, and money lending. In the process, they institutionalized many functions that hitherto had been performed periodically. Towns assumed functional specializations as administrative, manufacturing, service, financial, educational, or processing centers, and as they became more specialized also became increasingly interdependent with similarly specialized towns and organizations in larger cities. The increasing linkages resulted from and helped create stronger networks of horizontal and vertical interaction among various levels in the spatial system.

These interdependencies stimulated in turn the demand for efficient transport facilities, public utilities and reliable communications among the metropolis, regional centers, intermediate size cities, towns, market centers, villages and rural areas, tying them more tightly into a self-sustaining national economy. The need to mobilize resources in order to provide public services led to more reliable tax collection and resource allocation procedures, better trained government officials, and a wider range of social services and infrastructure. In brief, the linkages among dispersed market centers provided not only the basis for economic growth but the means by which a large majority of the population participated in and benefited from the development process. Citing as an example of such a process, Johnson observes of China during its period of economic expansion, that "the product of thousands of years of cautious experimentation and slow pragmatic development, the Chinese marketing system has taken the form of 'interlocking networks.' Since each standard market town is linked with two or three intermediate market systems, and since each intermediate market center is in turn functionally related to two or three central market systems, the whole complex serves not only particular territorial regions but an entire national area."<sup>35</sup>

#### Inadequacies of Spatial Systems in Developing Countries

Economic growth and spatial development thus have been mutually dependent. Savings and investment derived from commercialization of agriculture allowed services and facilities to be concentrated in central places in industrial nations. The system of production and exchange that provided markets for agricultural commodities in developed countries depended on the emergence of a widely dispersed yet closely integrated system of central places.

The drastic difference between economically advanced and underdeveloped countries is that the latter lack the spatial pattern that promoted growth in the developed world. "It is not that underdeveloped regions

lack central places," Johnson argues, "for some have too many! What is amiss is that they rarely constitute a functional hierarchy and for this reason they fail to provide an intermeshed system of exchange that will provide the requisite incentives for increased application of labor, capital and human skills."<sup>36</sup> Instead of emerging as economic systems of dispersed market towns linking rural and urban centers, developing nations remain village economies that do not provide large enough markets for commercial agriculture or a network of industrial production and exchange. A population scattered in small hamlets and villages does not permit large enough concentrations to form regular, institutional markets, or incentives for higher agricultural productivity. There is little reason to save and invest; specialization and division of labor do not occur, and opportunities for market expansion and nonagricultural employment are few.

In many respects the settlement pattern of the Republic of Kenya is typical of that of much of formerly colonial Africa, and, indeed, of the former colonial world as a whole. Tribal centers existed in Kenya before the coming of the Europeans, and an indigenous system of local markets and trading patterns had developed. With the arrival of the Europeans new settlements were established for administration and commerce, which generally were located for administrative convenience, and sometimes at the whim of the individual colonial officer or by various missionary groups. As a result, several unrelated spatial systems emerged in Kenya, each serving a different function. In some cases, all three entities, native settlements, colonial centers, and mission stations were physically located in the same center, but because of the lack of cooperation among them the spatial system remained unarticulated.<sup>37</sup> Colonial trading centers were clearly parasitic as assembly points exporting goods from the hinterland to overseas markets, communications nodes for the colonial regime and settlement outposts to demonstrate that the colonial power was effectively occupying the area which it claimed as a colony, in accordance with treaty obligations.

With the end of the colonial era the expatriate and indigenous spatial systems began to merge and in rural areas, tribal periodic markets evolved into small urban centers. As periodic markets acquired more business, they developed larger threshold populations, met more frequently--instead of two to three times per week they became daily events--that created need for greater permanency and infrastructure development at the market site. Construction of buildings and compounds provided itinerant peddlers--who formerly travelled between the various periodic market sites, and, who with the new permanence of a particular market--a sedentary retail role at a fixed site. But Carvalho found a considerable number of social services and facilities were located outside the centers, in no discernible spatial pattern. Thirty-five percent of all dispensaries, and forty percent of the total number of secondary schools, for example, were randomly located in rural areas. Educational facilities were more widely distributed than any other service, and the dispersal was both uneconomic and inconvenient, with 45 percent of the schools having only three classes or less, and the majority having only one. This type of ad hoc dispersion, and duplication of services, contributed little to an ordered pattern of development.<sup>38</sup> Kenyan planners later recognized that dispersed and scattered investment resulted in a loss of the multiplier effect, and to remedy the situation began focusing investment primarily on small urban places and on designated rural areas, where most of the population was located. ". . . In a very real sense rural development will imply rising urbanization, not in the major cities . . . but through growth of commercial activity in a large number of small trading centers . . . [as] foci of trade, social services, and communications with surrounding farm areas."<sup>39</sup>

Another manifestation of inadequate spatial development is in India where, in 1971, 19.9 percent of the population lived in urban areas. The distribution of urban population by size of urban center, however, has been grossly uneven, with about 56 percent of the total urban population concentrated in cities of 100,000 or more inhabitants.

Medium-sized cities (those between 20,000-100,000 inhabitants), on the other hand, constituted only about 28 percent of the total urban population, "indicating a weak middle base to sustain the urban structure of the country."<sup>40</sup> Thus one of the fundamental problems constraining rural development in India has been the "non-viability of its settlement pattern,"<sup>41</sup> with nearly 38 percent of the total rural population living in villages with less than 1,000 people, and 25 percent in the 1,000-2,000 size range. In many states, the percentage of rural population living in villages of less than 2,000 inhabitants, is enormous--Assam, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh, all have more than 75 percent of their populations living in rural hamlets. "This kind of settlement pattern," one observer argues, "can hardly support any system of communal services and facilities, and poses some hard choice issues for the planners."<sup>42</sup>

Analysis of the intermediate and small towns in central peninsular Malaysia finds a similar pattern with the lower end of the spatial system service centers with populations of less than 5,000 growing rapidly, thereby changing the relative importance of larger centers and increasing spatial dualism. The tendency is reinforced by growing investment in large scale enterprises. With increased customer and trader mobility, and access to cheap transport and communication, the role of the intermediate-size town is slowly eroding and the small-center and large-regional or national center is becoming more important. ". . . The regional urban system is responding to a rural-led growth in incomes, and it is not evolving its own dynamic, or the structures from which such a dynamic might arise" analysts observe. For the nation as a whole, ". . . the size distributions of towns in Malaysia shows that there were 18 cities and towns of above 30,000 population in 1970, within which most of the industrial and wholesaling activity of the country was concentrated and which show reasonable correspondence to the population distribution expected in an integrated, diversified, urban system. However, between this level and a population of 10,000 there are relatively few towns."<sup>43</sup> The emerging spatial system, then,

is characterized by the expansion of a number of service centers, which satisfy the local population's demand for a relatively small range of wholesale and manufacturing activity, but also by a lack of intermediate cities capable of meeting increased demands generated by rising rural incomes.

As a result, in these and other developing countries, poorly integrated spatial systems provide little opportunity for interaction between villages, marketing centers, intermediate cities and metropolitan areas, or for linkages to be created among their activities. Periodic, local markets do not provide a sufficient range of activities for interaction with other towns and villages and are not large enough to stimulate commercial agriculture and small industry. The International Labour Office observed the lack of industry in the rural Philippines and that, "in spite of substantial transport costs, textiles are shipped from Manila to the smallest towns in Mindanao. Shoes are produced only in large towns. There is, in short, a surprising absence of the kind of lower cost adaptive consumer good produced for the domestic rural market and traded among and within the islands."<sup>44</sup> In many countries, nonagricultural goods are either home-made by farmers themselves, or are provided at periodic intervals by traders through bartering. "Although there are exceptions," Johnson notes, "the small rural traders cannot expand the scale of their operations. They have neither the capital nor the entrepreneurial daring needed to restructure an inefficient market system."<sup>45</sup>

Problems arising from the lack of market centers and intermediate cities are compounded by the dominance of a primate city and the polarizing forces of a dualistic economy. "In less-developed village-structured economies cities are relatively few and inordinately large," Johnson contends, "consequently a satisfactory interconnection between town and country by means of a hierarchy of central places, functionally dispersed over a landscape in descending scale of utility and size, is either lacking or so imperfectly developed as to leave unserved

interstices."<sup>45</sup>

The way most developing countries selected industrial locations in the past contributed to the problem. Starting in the early 1950s Ghana, for example, embarked on an industrial estate program aimed at providing the benefits of external economies to reduce manufacturing cost of foreign investors, thus attracting new industries without offering special favors. Planners failed to note, however, that goods produced on these estates were largely for export and that linkages between large and small enterprises did not emerge domestically nor did the advantages afforded by complementarity create interdependent and functional economic areas within the country. This oversight seriously limited the potential contribution of such an investment program to spatial development. During the country's second development plan more than 600 factories were constructed providing some 100 products. But the pressures for modernization in rural areas left location decisions to politicians, who scattered factories widely in villages ill-equipped with transport, public utilities, manpower, and entrepreneurship. The opportunity to create an integrated spatial industrial hierarchy or to establish industrial nuclei as new central places was not considered. As a result, Darkoh observes, "Ghanian industrialization is characterized by weak and perhaps insignificant development of intersectoral and interregional linkages, that is, insignificant flows inside the productive system."<sup>47</sup>

Overconcentration of urban growth in primate cities and the scattering of investment in rural areas not only reinforces obstacles to rural market expansion, but drains the hinterlands of whatever resources are developed, constrains investment dispersal and creates a set of political, economic and social problems in the primate city that developing nations lack the resources to solve. In the absence of a spatial system composed of integrated central places, incentives for increased agricultural productivity are weak, human resources are wasted and poverty and inequity are perpetuated.

Creating Articulated Spatial Systems

Reducing spatial and economic disparities and ameliorating poverty in developing countries can only be achieved through a deliberate policy of economic intervention and spatial planning of investment. An integrated spatial network of central places functioning as linked markets in a national system of exchange must be deliberately created in developing countries. Historical evidence demonstrates, Johnson contends, that " . . . the creation of necessary market towns cannot wisely be left wholly to atomistic market forces." The process of integrated spatial development must be " . . . guided, assisted, quickened and induced by careful overall preplanning even as it should be properly implemented by integrating the whole market-town making programme with a nation's overall planning of patterns, targets and goals."<sup>48</sup>

The strategy must flow from a deliberate policy of integrated urban-rural development rather than waiting for "the slow, hesitant, groping, local market forces painfully and painlessly to bring regional market centers into being." Johnson contends:

For one thing is certain: adequate regional market and production centers must come into being before there can be any real capacity for organic development and transformation. The longer this decision is postponed or evaded, the lower the real-income yield on net national investment, and the slower the rate of improvement in real wages. For in modern societies productivity is not merely the resultant of a ratio between a man and his tools; it is this in relation to the organizational efficiency with which the enterprise, the regional market community, and the entire market provides.<sup>49</sup>

During the last decade development planners have increasingly urged that investment be analyzed in terms of its impact on the spatial system. Such arguments are based on concepts of geographic rather than economic space. In India it was proposed that the planned urban pattern be " . . . one which provides a rural-urban continuum from the smallest of villages to the largest metropolis." India's spatial system, as a



consequence of location decisions made during the 1960s, could take any one of three forms: village, metropolitan or town-centered with the latter focusing on development of towns in the 20,000 to 300,000 population range. The first two alternatives are regarded as unacceptable. The former because it is unrealistic and the second, although feasible and natural, because of high social overhead costs. To accelerate industrial decentralization, new industries instead would be located in intermediate size cities with populations of from 100,000 to 300,000.<sup>50</sup>

Assessments of the West African urban situation note problems caused by congestion of cities and the deterioration of the countryside demand joint solutions,<sup>51</sup> and for this reason town and country should be linked, and the roles of industrial complexes and smaller towns made complementary. Dispersal of capital-intensive industries was regarded as economically infeasible, whereas the creation of small, labor-intensive industries located in smaller towns with reasonably well-populated markets, however, was seen as a potentially appropriate response to the widespread need for nonagricultural jobs.

Rather than attempting to restrain the growth of large cities, recent development strategy concentrates on countering potential negative effects of rapid urban growth by encouraging industry and commerce to locate in those medium and small towns. Encouraging the growth of existing smaller towns to provide employment services and facilities to agricultural hinterlands is increasingly recognized in the plans of developing nations as a means of creating way-stations for migrants permitting easy adjustment from rural to urban life, slowing or stemming the flow of migration directly from the hinterlands to the city, and providing initial training in industrial skills, while promoting the "retention of useful ties of the land."<sup>51</sup> Market towns would also better sustain the traditional craftsman and might encourage creation of skills in the villages.

Although development of each level in the spatial hierarchy of economically

less-advanced nations is now more widely accepted as opposed to building one level at the expense of the others, relatively little is known about the most effective means of implementing the concept. In some countries experiments have attempted to accelerate the growth of medium-size cities and regional centers whereas other nations have tried to contain the growth of major metropolitan areas. All had mixed results. The most intractable problem, however, remains that of generating and sustaining market towns and smaller cities which can be linked into a system of exchange with intermediate and larger urban areas. Relatively little is known about smaller central places, the kinds of services, facilities and functions they perform, or their pattern of linkages. But because the existing spatial system must be the base for effective spatial development strategies, the types of small central places in developing nations and their functions, services and linkages must be identified and analyzed.

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## CHAPTER SEVEN

### THE ROLES OF SPATIAL CENTERS IN NATIONAL DEVELOPMENT

To provide the political, administrative, technical and organizational inputs needed for rural development that were identified in Chapters 3, 4, and 5 requires locating major services and facilities in central places linking cities with rural hinterlands. Yet, relatively little is known about the most effective means of distributing those services and facilities, or even about the functions performed by the various centers in a spatial system. Some types of central places--large market towns, small cities and intermediate centers--are inadequately developed in Third World nations. And where they do exist, few studies of their economic and social functions provide a basis for planning and strategy design. The problem of defining and comparing elements of the spatial system in developing nations adds to the analytical and operational problems.

Although central places are usually defined as those elements of the spatial system providing residentiary functions (services for a spatial unit and its surrounding region) and basic functions (the production of goods and services for consumption outside the spatial unit), the two activities are sometimes difficult to separate. A central place is considered here to be one which performs either or both functions. Determining size and rank of places in a spatial hierarchy also has been, and continues to be, a recurrent problem in the analysis of developing countries. Scale is always relative; a village in a country such as India may be considered a medium size town in a less densely populated country such as Venezuela. Population size alone does not create a central place, but in the absence of more precise data, many studies define it as a settlement with more than 5,000 people.<sup>1</sup> But that distinction is too arbitrary, for in developing countries many small settlements perform distinctly urban functions whereas some large places do not. Nor can towns and cities always

be identified by their physical form because in many areas towns, villages or small cities look much the same; they have similar population densities and physical patterns.

Clearly, there are severe limitations to generalizing about the functions and services provided by central places in developing nations or even about the types of central places that exist. Cultural, historical, administrative, political, economic and physical conditions vary widely among countries, producing spatial hierarchies that differ drastically in their components, configurations and functions. But if integrated rural development strategy is to be made operational, in the absence of detailed research and comparative analysis, some general conclusions must be made concerning the roles of various types of central places in developing nations and the functions that they seem to perform or are capable of performing. Only by comparing the types of central places that appear in developing nations, aggregating them into general categories of settlements and identifying generic activities, can conclusions be drawn--however tentative--concerning the spatial distribution of functions. The conclusions that follow, drawing on studies of India, Ghana, Peninsular Malaysia, Kenya and Thailand, should therefore be treated as propositional statements concerning the types of functions most likely to be found at various places in a developing nation. The propositions must be tested for any specific country through on-site surveys. The general classification used here relies more on order of magnitude than on precise quantitative distinctions between one level of central place and another, and on the general range and types of functions usually found in each place. Thus a hamlet or village is considered to be on the lower end of a hierarchy, with smaller populations and less functions than market towns and intermediate cities; metropolitan areas and primate cities are at the higher end, with the largest populations and greatest variety of services and facilities. Using this classification, four general types of central places seem to characterize developing nations, each performing different, although not always consistent, sets of functions: 1) village centers,



2) market and district towns, 3) "middle-level" cities and intermediate centers, and 4) metropolitan areas and primate cities. (See Table 10).

#### METROPOLITAN AREAS AND PRIMATE CITIES

For whatever reasons they emerged, primate cities continue to play a dominant role in the spatial, economic and social development of most Third World nations. Thus their functions must be understood in order to design realistic strategies for transforming their spatial structures to achieve the goals of integrated development policy. Primate cities, and large metropolises are essentially nodes of interaction which perform economic functions with relatively high levels of efficiency, depending on their productive and administrative capacity, transport system, and technological level. Brutzkus, reviewing the roles of primate cities, attributes to them the following advantages, which also indicate their major functions:

1. Agglomeration economies essential both for manufacturing industries and the tertiary sector.
2. Harbor and airport facilities of international standing supported by locations that command interior lines of communication.
3. Existence of technical infrastructures and diversified technical services, including repair shops, spare parts stores, etc.
4. Banking facilities and proximity to government offices (in cases where the primate city is also the capital) on whose decisions subsidies, licenses, building contracts, and allocations of credit depend.
5. Relatively large markets with a purchasing power far exceeding the countries' average. This large market, in addition to the commanding location in relation to national markets, accords advantages of economies of scale for industries and commerce.
6. Larger pool of labor including specialized skills. Often this is the only place in the country where technical and other specialists may be available.

TABLE 10: GENERAL FUNCTIONS IN AN URBAN HIERARCHY

SERVICES AND ORGANIZATIONS	VILLAGE CENTERS	MARKET AND DISTRICT TOWNS	"MIDDLE LEVEL" AND INTERMEDIATE CITIES	PRIMATE CITIES AND METROPOLITAN CENTERS
Administration	Police Post.	District Officer. District Court. Police Station (With Jail). Specialized Officers (e.g., Agriculture)	Provincial Administration Special Govt. Services Headquarters.	Seat of State/National Govt. Seat of Judiciary. Embassies. Headquarters of Government Departments.
Health	Dispensary.	Physicians. Dentist. Health Center/Clinic. Drugstores.	Regional Medical Offices. General Hospital. Specialized Physicians. Large Drugstores.	Specialized Hospitals. Medical Research Institutes.
Marketing and Shopping	Small Retail Shops. Periodic Market. Specialized Shops Rare.	Larger Retail Stores. Specialized Retail Shops. Gas Station. Small Wholesale Stores.	Large Retail Stores. Retail of Large Consumer Durables. Service Station. Large Wholesale and Distribution. Warehousing.	Luxury Retail Shops. Headquarters of Chain. Stores and Import-Export Houses.
Industry	Artisans Shops. Occasional Agroindustrial Plant.	Larger Cottage Industry. Larger Agroindustrial Plants.	Large Agroindustrial Plants.	Heavy Industry.
Finance	Village Money Lender.	Commercial/Cooperative. Post Office Banks. Finance Co. Offices. Pawnshops.	Banking. Insurance. Brokerage. Middlemen.	Domestic and Foreign Banks. Financial Headquarters. Chambers of Commerce. Trade Associations.
Public Utility	Branch Post Office.	Electricity. Post Office. Telephone Service. Telegraph Office.	Electricity. Sewer System. Water Supply.	Full Range of Municipal Utilities.
Traffic	Not Traffic Junction. Unsurfaced/Seasonal Roads.	Surfaced Roads. District Transportation Focus.	Regional Transp. Service H.Q. Regional Road Focus. Imp. Railroad Station. All-Weather Highways.	Metropolitan Transp. System. Riverine and Ocean Shipping. Airport.
Education	Primary School. Small Secondary School.	Larger Secondary School(s).	Secondary School. Technical Schools. Colleges.	Universities. Technical Institutes. National Research Institutes. Scientific Academies.
Recreation	Coffee/Tea Rooms. Bar.	Cinema. Cafes.	Theater. Restaurant. Hotel with Nightclub.	Theater, Ballet. Museums. Art Galleries. Orchestra, Opera.

7. Distinct superiority in educational, cultural and entertainment facilities.
8. Social environment relatively attractive to foreign investors, entrepreneurs and specialists.<sup>2</sup>

The large city or metropolis occupies the highest level in an urban hierarchy. It is often, although not always, the seat of national government, headquarters for government departments and foreign diplomatic missions, and the seat of the judiciary with high and lower courts, judges and legal practitioners. Most municipal public utilities and services are available, as are universities, professional schools, specialized training institutions, research organizations, cultural groups and major medical facilities. The metropolis is usually the center of trade and wholesale and retail commerce, offering the greatest range of goods within the country, and supported by a complete array of financial institutions--insurance companies, domestic and foreign banks, chambers of commerce and trade associations.

The metropolis is generally unsurpassed in cultural and recreational activities. It is the center of printing, publishing, bookselling, the hub of journalistic activity and the repository of national treasures in museums and art galleries, with a national ballet and opera. It boasts hotels and restaurants of every size and quality, cinemas and other forms of diversion. The metropolis, particularly a primate city, is usually the focus of major transport linkages. In most developing countries the national transportation system--road, rail, riverine and air routes--converge at the primate city. The metropolis has both internal connections with intermediate cities and external linkages with other nations.

Those advantages, as Brutzkus confirms, "are self-perpetuating and are responsible for the high momentum of continued growth. In conditions of general scarcity of capital and skills in developing countries those advantages are not easily achieved outside the primate cities

or transplanted to other localities, especially if a deliberate, consistent regional policy is lacking."<sup>3</sup> The external economies of primate cities and large metropolises continue to influence strongly the location decisions of new enterprises. In considering the full range of externalities, those responsible for location decisions consider not only "the obvious savings to firms by virtue of mutual proximity of labor and other factor supply, government and financial centers, markets, and complementary commercial-industrial activities, but the less easily measured externalities of an acceptable social atmosphere for persons with managerial and other high-level skills, the attractiveness and prestige to a former rural resident of living in a 'name city' with known amenities and advantages; a lower cost of search for labor on the part of firms, and for jobs in business opportunities for individuals."<sup>4</sup>

It is often those "less easily measured externalities" that are the most important functions provided for location-seeking activities by primate cities. Recent research shows that personal contacts and information linkages are of major importance in deciding on location. In many developing countries face-to-face contacts and personal interaction are the most effective means of exchanging information for both high level public administrators and private executives, with such personal contacts occupying a large part of their working time."<sup>5</sup> And for small companies, the potential for "seed-bed" growth found in large cities is the main reason for locating in the metropolis. In close proximity to existing large industries smaller firms can benefit from second-hand machinery, skilled labor, potential customers and easy access to supplies and materials.<sup>6</sup>

Indeed, the critical role that metropolitan areas play in attracting growth-inducing activities results from their domination of the spatial structures of developing countries, and the lack of large-scale central places to compete with the metropolis. The lack of urban services and functions in smaller cities and towns reinforces the pull of the primate

city. Conditions in many developing countries strongly resemble those in India where as Harris observes, "the reliability of power and communication services, the accessibility of cultural and education facilities, the resourcefulness of local service technicians, the passability of the roads, and the work outlook of the labor force tend to fall off with movement down the scale of size and outward from the metropolitan center."<sup>7</sup> For precisely these reasons the concentration of light industry, which constitutes the bulk of Colombia's manufacturing sector, has been in large urban areas. Because Colombia's physical infrastructure is concentrated in large cities, and the supply of such services as electricity, gas, water, transport, or telephones is either unavailable or unreliable elsewhere, industrial location in smaller towns and rural areas may be either impossible or prohibitively expensive. Such factors suggest that Colombian manufacturers are faced with steeper production costs and poorer markets than those facing similar companies in developed countries. Hence fewer Colombian industries are foot-loose and there is a stronger tendency to locate in major cities, thus reinforcing the advantages of the metropolis over other components of the spatial system.<sup>8</sup>

The hierarchy of functions which the metropolis or primate city dominates, can easily be seen by categorizing services and facilities by size of spatial center in developing countries. In Ghana, the metropolis has the widest range of services and all of the facilities listed in Table 11 are typically present at their highest level, except railway stations, universities and airports which are not universally found in Ghanaian large cities.

In India, the Calcutta Metropolis, the primate city of West Bengal, exerts great influence, ranking as the country's second largest economic center and as one of the nation's leading centers of scientific and technological research and higher education, performing central place functions summarized in Table 12. Features of the urban spatial system in West Bengal are typical of many other highly urbanized

TABLE 11: SERVICES PERFORMED BY URBAN PLACES IN GHANA, 1960

Population Range (1000s)	MINOR CENTER		DISTRICT	INTERMEDIATE	REGIONAL	METROPOLIS
	Type B	Type A	TOWN	CITY	CITY	
	← 1-11 →		1-17	4-27	13-35	41-365
Postal agency	+	x	x	x	x	x
District Commissioner	+	+	x	x	x	x
Police Post	+	+	x	x	x	x
Police Station	-	+	x	x	x	x
Post Office	+	+	x	x	x	x
Rest House	-	+	+	x	x	x
Gas Station	-	+	+	x	x	x
U.A.C. Wholesale	-	+	+	x	x	x
Health Center	-	+	+	x	x	x
Main Road Junction	-	+	+	x	+	x
Local Court	-	-	+	+	x	x
G.N.C.C. Road Camp	-	-	+	x	x	x
General Hospital	-	-	+	x	x	x
Secondary School	-	-	+	+	x	x
Bank	-	-	+	x	x	x
Government Treasury	-	-	-	+	x	x
Police District H.Q.	-	-	-	+	x	x
Railroad Station	-	-	-	-	+	+
G.N.C.C. Main Yard	-	-	-	+	x	x
Service Station	-	-	-	+	x	x
U.A.C. Office	-	-	-	-	+	x
Public Library	-	-	-	-	+	x
24-hr. Telephone Exchange	-	-	-	-	+	x
Hotel	-	-	-	-	+	x
Municipal Bus Station	-	-	-	-	+	x
Regional Commissioner	-	-	-	-	-	x
Airstrip	-	-	-	-	-	x
Specialized Hospital	-	-	-	-	-	x
Airport	-	-	-	-	-	x
University	-	-	-	-	-	+

NOTES: x indicates present  
 + indicates occasionally present  
 - indicates absent

G.N.C.C. = Ghana National Construction Corporation  
 U.A.C. = United Africa Co. (large importer of consumer goods)

TABLE 12: CENTRAL PLACE FUNCTIONS OF THE CALCUTTA METROPOLIS

a)	Administration	Seat of Govt. with Headquarters of all their Departments (20), Foreign Consulates (34), High Court (1), Lower Courts (5), Judges and Legal Practitioners (607).
b)	Health	Highly qualified Doctors and Special Doctors (4,106), Drugstores and Dispensaries (8,083), Specialized Clinics, Hospitals and Dispensaries (89).
d)	Trade and Commerce	Largest Wholesale Trading Centre of the Eastern India. Daily Markets (91), large concentration of Business and Shopping houses (5,718).
e)	Industries	Most important center of printing press, leather, glass, chemical and pharmaceutical industries. Foodstuff (rice, flour, oil) mills.
f)	Finance	Head Offices of Insurances (20), Banks (46), Foreign Banks (17), Chamber of Commerce (10), Trade Associations (43).
g)	Public Utility	Telephone and Postal Headquarters. All Municipal Services. Engineering concerns and builders (500).
h)	Traffic	Largest commercial port of India, important international airport, biggest railway terminus of India.
i)	Education	Universities (2), Higher Scientific and Medical Institutions (12), Higher Cultural Organizations (5), Cultural Societies (203), Colleges (160), Professional and Technical Schools (34).
j)	Cultural Activity	Daily Newspaper in English (8), in regional languages (19), Weeklies in English (17), Monthlies in English (79), Periodicals in 8/10 regional languages (58), biggest publishing centre in India. Printers (154), Publishers and Booksellers (461).
k)	Recreation	A big centre of commercial entertainments (Cinemas 84, Theatre 7), big hotels and restaurants (76, excluding the minor ones).

SOURCE: Kar, 1960.

underdeveloped areas. A large functional gap separates the Calcutta metropolis from lower order urban centers. Large satellite industrial cities--swelling islands of modernization--contain neither central institutions nor perform central functions. Although services are concentrated in the metropolis these are not commensurate with its population and lower order centers are inadequately endowed with either services and facilities or urban amenities in proportion to their population size.

#### "MIDDLE LEVEL" AND INTERMEDIATE CITIES

The next level of central place generally found in developing countries is the middle level or intermediate city. This category includes Urban Centers (Kenya), Municipal Area Centers (Thailand), Intermediate Cities (Ghana) and District Towns (India). The intermediate town is the base of provincial or regional administrative functions and the headquarters for specialized government services, such as agriculture, health, regional police, and the judicial system. Such towns provide relatively good medical facilities--regional medical offices, hospitals, specialized medical practitioners, large drugstores, as well as public sewer systems, electricity, large post offices, telegraph and telephone offices. Secondary schools are ubiquitous and colleges or technical schools may have been established in these locations.

The intermediate city functions as a regional collection and distribution center, containing large wholesaling and distributing firms in addition to a wide range of general and specialized retail outlets. As the regional focus for primary product transactions it often contains a range of brokerage enterprises and middlemen, larger financial, insurance, commercial and transportation facilities. The middle level city may also be an important agroindustrial and primary product warehousing center, as in the case of Thailand. Usually it lacks any big, non-processing industries, particularly in India, where industrial



towns constitute a distinct category of urban settlement which perform few general urban functions. The middle size city is generally well linked to the national transportation system. In India, besides being the regional focus of an all-weather road system transversed by regular public transportation, the intermediate town is usually an important railroad stop.

Intermediate cities in India take the form of "district towns" and satellite industrial cities, both striking features of the urban landscape in a region such as lower West Bengal where "[these] industrial satellite towns and cities, including the predominantly industrial district city of Howrah, cluster along both banks of the Hooghly river within a stretch of about 35 miles along the river." Kar observes that "most of them have sprung up around the location of jute mills along the Hooghly river, while most of the big manufacturing plants of paper, textile, leather, chemicals, glass, etc., are located in these towns . . . an urban landscape no where [sic] to be found in India."<sup>9</sup> The District Town, with an average population of about 50,000, apart from the metropolis of Calcutta itself, represent the highest order to settlement in West Bengal's regional spatial system. In addition to containing district headquarters, offices of various government agencies and public utilities, and providing specialized administrative, medical and financial services, the district town is characterized by the presence of large wholesale and distributing outlets; specialized retail shops (opticians, electrical goods, branches of a national chainstore); one or more colleges; and a weekly newspaper.

In Ghana, intermediate-size cities are mainly administrative and commercial centers, but social service and communications functions are almost as important. Intermediate cities constitute the greatest number of industrial centers in Ghana, whereas only two of them are dominated by mining. In some towns the development of social services has not kept pace with the rapid expansion of other sectors, thus the functions performed by Ghanaian intermediate cities vary considerably

among regions. In the northern half of the country administration, communications and commerce are widely represented in the intermediate city whereas they are strikingly short of social and industrial functions. In the Ashanti Region, the situation is similar except for better social services, but in the Volta region social services are exceptionally well represented. Near the coast the most rapidly developing intermediate cities show a preponderance of communications and commerce services, and all of them are industrial centers, but none is an important administrative or social center.<sup>10</sup>

In the regional centers, most services are typically present, with the exception of air transport, universities and specialized hospitals. Regional commissioners, municipal bus services, hotels, day and night telephone exchanges, libraries, railway stations, and main road junctions are sometimes present. Thus regional cities are typically communication centers, and all are administrative centers. Services typically present in an intermediate-size city, include district commissioners, police stations, post offices, rest houses, gasoline stations, United Africa Company wholesale outlets, main road junctions, local courts, hospitals, banks and government treasuries. Five services are sometimes available in such centers: secondary schools, police district headquarters, Ghana National Construction Corporation main yards and road camps, service stations, and United Africa Company District Offices.

The crucial role that the intermediate city or regional center can play in national development is illustrated vividly by Chonburi Town, the major urban center in Chonburi Province in Thailand.<sup>11</sup> Chonburi, one of the most important provinces in eastern Thailand, includes seven administrative districts, or municipalities. In Thailand, the municipality is the center of provincial administration and political activities and of postal, telegraph and telephone services, the provincial radio station, and for the local newspaper. From the municipality the transportation officer runs the provincial buslines.

Functional roles of urban and rural centers in Thailand are differentiated, with many rural centers functioning principally as marketplaces for the exchange of agricultural and commercial products. The various levels and function of centers in Chonburi Province are given in Table 13. At each center distinct goods and services are provided to a definable market area. Various centers are spatially interdependent, with overlapping and interlocking market areas for goods and services.

In Chonburi Province markets exist at each center, which correspond quite closely to provincial administrative divisions. Chonburi town stands out as the highest order center with the largest population, market area, and economic reach. District centers form the second level in the hierarchy with considerable range in market area size and functions. District centers at the lower end of the range perform either specialized functions which characterize the lower-level centers. Sanitary Districts contain "Class 'A'" pharmacies, hotels, pawnshops, restaurants, motorcycle agencies, and retail outlets for consumer durables, and relatively well-equipped medical clinics.

Markets located in sanitary districts occupy a third level in the hierarchy and represent a group of emerging incipient "urban places," some of which are challenging district centers for functional and spatial prominence. Fourth and fifth levels in the hierarchy are composed of commune and village centers respectively. Aside from the potential growth related to sanitary districts the commune-level center may be the one most dramatically influenced by demographic and economic changes in the province. These centers may experience more rapid growth where competing high order centers are widely separated, or may shrink in size and functions as larger areas expand their service areas. The dynamics of this system of market centers reflects continual change in economic activity, land use, transport availability and efficiency, and population and settlement distribution.

The largest centers in the region are Municipal Areas (thedsaban),

TABLE 13: THAI URBAN FUNCTIONS (CHONBURI PROVINCE )

VILLAGE MARKET ( <u>Mu Ban</u> )	COMMUNE MARKET ( <u>Tambon</u> )	DISTRICT MARKET ( <u>Amphoe</u> )	SANITARY DISTRICT CENTER (Sukaphiban)	MUNICIPAL AREA CENTER (Thedsaban)
Pop. 160-250 persons Hinterland less than 75 km <sup>2</sup> (w. 5000) 18-60 business ests.	Pop. 5-700 Hinterland 250 km <sup>2</sup> (25,000 people) 57-85 businesses	Pop. 1-7,000 Hinterland 530 km <sup>2</sup> (40,000) 100-210 businesses	Pop. 5-17,000 Hinterland? 75-293 businesses	Pop. Hinterland 19000 km <sup>2</sup> 201 businesses
General Stores Beauty/Barber Shop Dress/Tailor Shop Hardware Store Bicycle Repair Shop Prepared food, coffee, soft drink, and whiskey stores.	Vehicle Repair Shops Rice & Bran Shops Gasoline Stations Shops w/luxury goods  Medical Clinic w/ Midwife Police Station  (soda Wholesalers (beer (whiskey	Laundry & Drycleaner Printing Shops Banking Dentists (machinery Farm (pesticides (fertilizers Animal Feeds Construction Mat'ls. Photo Studio Bottled Gas (fuel) Groceries Electrical Goods Jewelry/Food Shops Furniture Shops Post Office Telegraph Office Doctors Wholesale Imports	Retail of Large Con- sumer durables Motorcycle sales Restaurants Medical Clinics Pawn Shops Hotels Pharmacies (Class "A")	<u>ADMINISTRATION</u> (PROVINCIAL) and <u>OFFICIAL SERVICES:</u> Police Agriculture Post Telegraph Health Provincial Transportation  Wholesalers

SOURCE: Chulalongkorn University, Social Science  
Research Institute, 1974.

of which Chonburi town, the province capital is the largest. In addition to performing all of the functions focused in other centers, these middle size cities provide wholesale functions and provincial administrative and official services, including police, agriculture, post and telegraph, health, and provincial transportation.

Chonburi Town acts as a focal point for trade between the rural areas and towns within the province and between the province and Bangkok. For some commodities the first 'post-production' activity is undertaken in the hinterland, and does not depend on any urban center. Chickens and chicken eggs are sold directly by farmers to hinterland retailers and customers, and to middlemen from other provinces. Owners of chicken supply stores, located near the farms, also act as hinterland-based middlemen, who sell to both their counterparts in Bangkok and to retailers in the hinterland. Truck drivers who collect duck eggs from various farms for transport to the Bangkok Egg Center act on behalf of the farmers at the market. For convenience they are called somewhat inaccurately, "brokers." In the fruit network, too, local brokers serve as collectors from different orchard owners, combining the products and delivering them to middlemen in the village market. Sugar farmers deliver their harvest directly to mills located in the hinterland, along highways, whereas Chonburi rice producers deliver their product to either middlemen or brokers, who, in turn, deliver it to the mills. Commercial rice mills are not located in the hinterland.

Thus Chonburi town is the focus of all provincial commodity marketing networks depicted in Table 14: chicken, duck, fruit and vegetable farmers sell to Chonburi middlemen who, in turn, wholesale to town retailers; fishermen and shellfish producers doing the same; fish middlemen sell to Chonburi fish product factories; and oyster producers sell directly to restaurants. Chonburi is the site of white sugar warehouses which supply local retailers and the location of middlemen who deal in polished rice. Besides selling to local retailers, Chonburi middlemen also deal

with Bangkok merchants, and middlemen in other provinces of Thailand.

#### MARKET AND DISTRICT TOWNS

At this level of spatial system--known variously as Rural Center (Kenya), District Town (Malaysia and Ghana), Amphoe (Thailand), and Thana Town (India), central places extend more specialized functions to lower order centers: administrative functions are reflected in the presence of district officers, courthouses, police stations with jail facilities, and often specialized officials such as an agricultural officer. At this level health services include physicians, sometimes a dentist, clinics or health centers, which range in capacity from a small maternity health center in India to a general hospital in Ghana. Towns at this level may have a small pharmacy. Most such towns have a post office, supplemented in Thailand by telegraphic facilities; electricity is usually available as are secondary schools.

The Market Town in most countries also boasts some small-scale financial institutions, either commercial, cooperative, or post office banks, financial company offices, and pawnbrokers. Moneylenders still play an important role in the financial structure of these towns. In the commercial sector, the market place and the general retail stores are supplemented by specialized shops; goldsmiths and jewelers, photographic studios, beauty salons, electrical appliance shops, and furniture stores.

The "district town" is linked to the higher order centers by a surfaced road, and in India, this level of central place (Thana town) may occasionally be serviced by a railroad. In Ghana this type of settlement is sometimes located at a main road junction, may have a gasoline station, and may be the locus of the national construction company's road camp. In Kenya and Malaysia, such towns are at the hub of a district transportation system.<sup>12</sup> In India Semi- or Thana Towns, also

Table 14

THE SPATIAL SYSTEM AND MARKETING NETWORKS OF SELECTED PRIMARY PRODUCTS  
CHONBURI PROVINCE, THAILAND

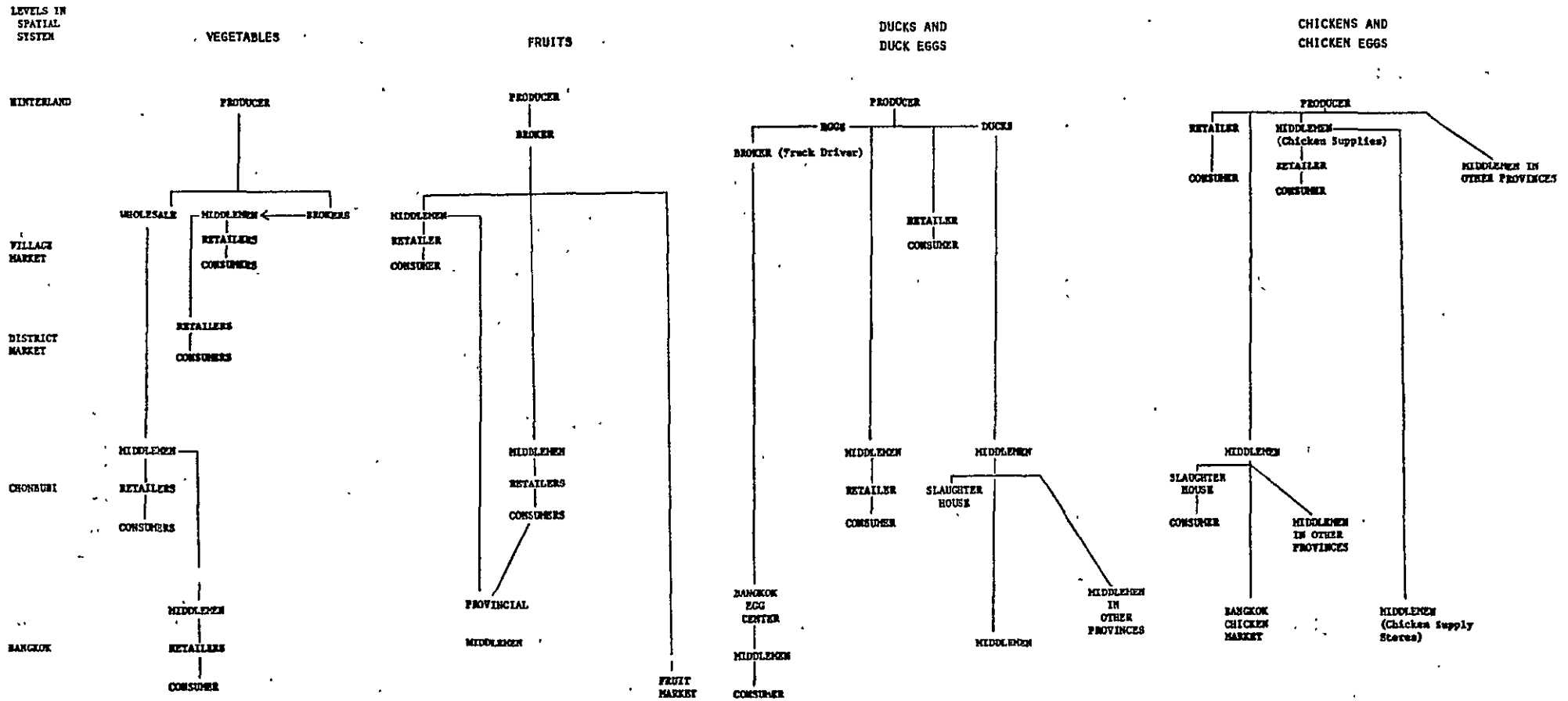


Table 14 (continued)

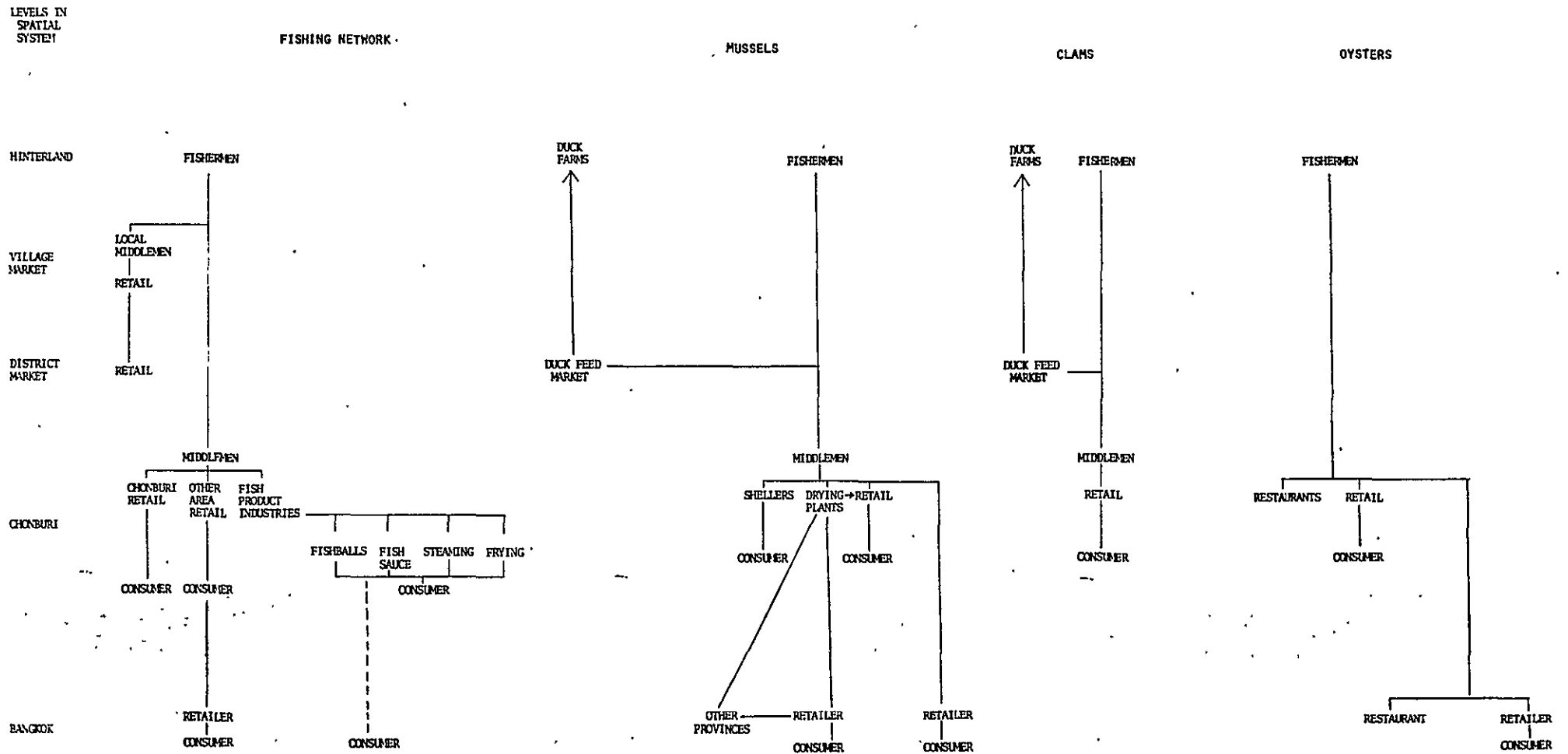
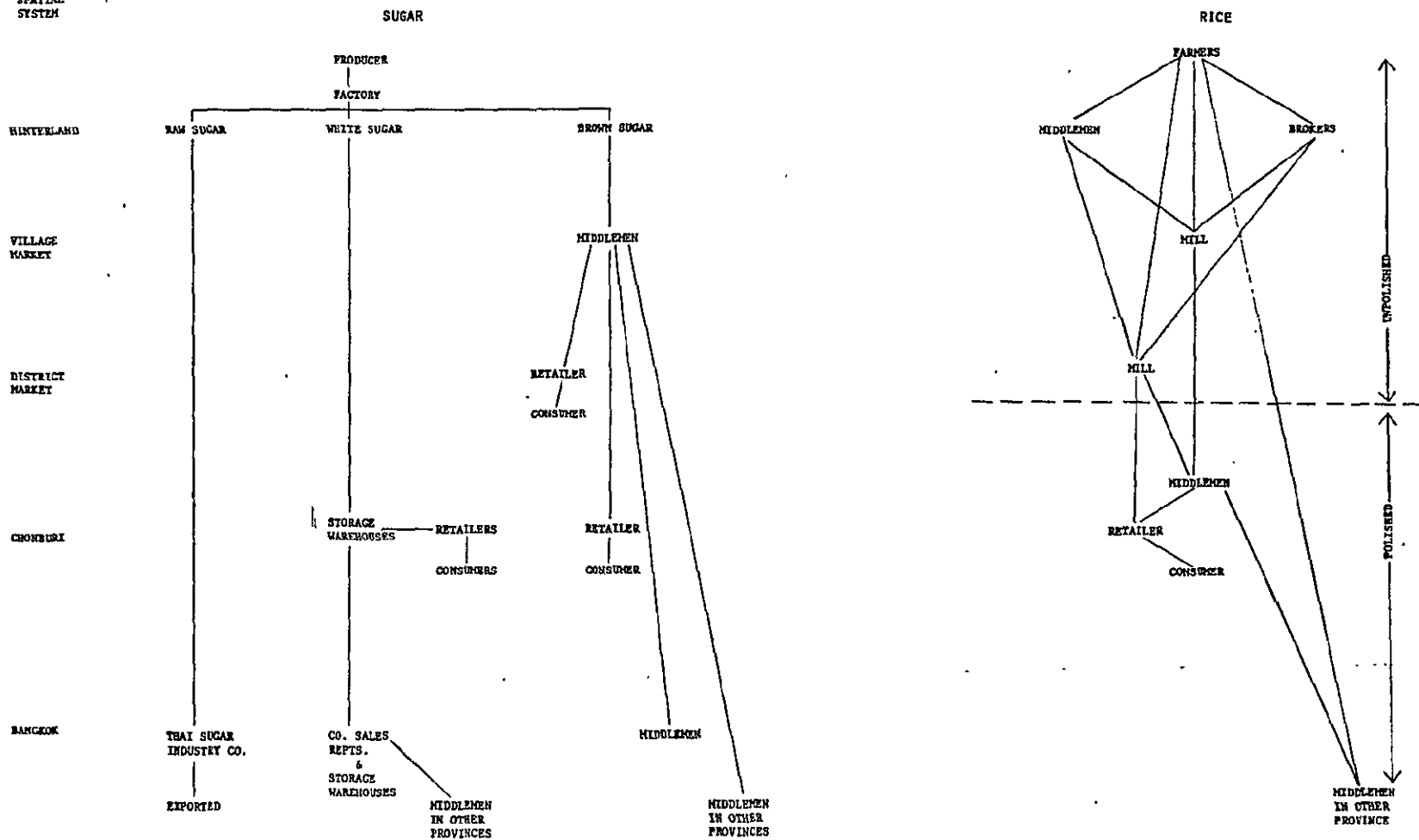




Table 14 (continued)

LEVELS IN SPATIAL SYSTEM



called Thana, or Block Development Centers, have an average population of 2,400. Administratively these are "semi-towns" governing a cluster of villages within a defined administrative boundary. Most were originally large agricultural collecting centers. Such towns have an urban flavor owing to a daily market, relatively large grocery stores and bigger-scale cottage industries. Moreover, in terms of the spatial system, distinctively urban functions are first performed at this level of center: police station (with lock-up cell) and medical doctors are present, as are pharmacies, and sometimes a small-scale cooperative bank, a branch post office, and an occasional secondary school. Sub-Divisional Towns with an average population of 17,000, perform some urban functions. They are characterized by municipal government, a small court (judiciary), government treasuries, ordinary medical specialists, banks, and colleges.<sup>13</sup>

In Thailand, District Market Centers (amphoe) lie midway along the hierarchy. With a population range of 1,000-7,000, and a hinterland of some 530 km<sup>2</sup> containing 40,000 inhabitants, the district centers perform a wide variety of service and administrative functions. Retail businesses located in such centers--as many as 200 in some district markets--include laundry and drycleaner, printing shop, photo studio, bottled gas, grocery shops, electrical goods stores, jewelry and gold sellers, furniture shops, construction materials and outlets for farm machinery, pesticides, fertilizers and animal feedstuffs. Wholesalers are important in the district market center. These centers are served by a physician and a dentist; contain banks, post and telegraph offices.<sup>14</sup>

District Towns in Ghana provide only three medium-level services--district commission activities, police stations, and post offices. Nine services are sometimes present including government rest houses, gasoline stations, United Africa Company wholesale outlets, main road junctions, local courts, Ghana National Construction and Corporation (G.N.N.C.) road camps, hospitals and secondary schools. Other services are typically absent. Most district towns are communications and

administrative centers. Commercial centers are the next most frequent type. Only one district town is an industrial center, whereas six are mining towns--the largest number in any class of town, a situation which confirms that mining is not necessarily accompanied by services with a high level of centrality. Administration is the preponderant service provided by the District Town in the more backward low-population density areas, with increasing numbers of communication centers toward the south, and commercial centers toward the east. In the eastern region towns of this rank are giving up their administrative functions to higher grade towns. In the north of Ghana the absence of enough high-grade centers has forced the government to create new centers at lower levels, many of which are solely administrative entities.<sup>15</sup>

In Malaysia, only the district towns support a range of stores selling different types of household non-durables. In no lower level center is there any store selling these products since only those with above-average incomes buy such consumer durables as electrical goods, for few live in houses supplied with electricity, and most such goods (e.g., refrigerators or radios) are expensive and must be paid for in installments.<sup>16</sup> Furniture stores, however, are ubiquitous--all households require furniture, and manufacturing and retailing is small-scale and dispersed in all urban places. Tailors, and photography studios and other services--dentists, clinics and goldsmiths--are located in the largest centers. The location of commercial banks, finance companies and cooperative societies reflects administrative decisions rather than consumer demand; most sites are selected according to the company's own evaluation of the local money market or the presence of a sizable government administration. Demand is more important in determining the location of pawnshops, which are limited, by government regulation, to one per town. The automotive trade is highly variable within the region. Data indicate that "considerable specialization has occurred not only in the field of transportation but also with respect to activities which have backward linkages with the region," especially those related to logging.<sup>17</sup> These linkages

include investment in tractors, farming and earth-moving equipment, business and industrial machinery and equipment, lumber and timber outlets, building materials and builder's hardware, and sellers of chemical products and petroleum.

The marketplace continues to have an important role in the retail trade of the district town in Malaysia just as it does in the smaller urban place, for it is a town's major source of perishable foodstuffs, particularly fruit and vegetables, and only rarely do retail stores stock these items. Apart from being the source of a town's daily provisions, many markets also have a regional importance, on a particular day attracting vendors from throughout the region. "A multiplicity of trading functions can be observed; the number of vendors increases radically; a greater range of items is displayed," Cohen and Brookfield note. "Wholesale vendors cater to non-local buyers; traders from both inside and outside the town's immediate hinterland come to retail, and in some cases micro-retail products."<sup>18</sup>

#### VILLAGE CENTERS

Although varying considerably in population size and in the dimensions of the hinterland served, villages are the smallest central places in nearly all countries, performing only very localized functions, often only for a population within walking distance. Ubiquitous in this class of settlement are retail and marketplace functions. Small retail shops are the most common enterprises along with coffee or tea shops. More specialized functions, such as beauty parlors and barbershops, hardware stores and bicycle repair shops are rare. The marketplace may be open daily or periodically (two or three times per week), but no other function appears as often at the village level. Administration may be represented by a police post; there may be a dispensary, or other public services such as a school or a branch post office. Usually the only financial institution is the village moneylender. Industry is

generally limited to production by a few artisans, although as with the sugar mills of Chonburi Province in Thailand, modern factories may sometimes be located close to the smallest centers. Recreational facilities are usually limited to a squalid bar, small cafes, and religious facilities.

In India, agricultural collecting centers or urbanized villages are either nodes in a rich agricultural area, or a site along a waterway. Traditionally, such centers boast grocery stores, grain storage facilities, and bi-weekly markets for the sales of agricultural produce, livestock, and crafts. These large villages represent the first sign of a central function in a predominantly rural landscape, offering blacksmith, carpentry, weaving, pottery and other crafts, and annual fairs, held in such places since time immemorial. Many of these small centers, occupying the lowest rank in the urban hierarchy, have been designated Union Board Centers, or Panchayat centers. As such they have been endowed with a gendarme (village headman), a small maternity health center, and government agricultural stores selling seeds and dispensing information.

Villages in Ghana are called "Minor Centers" and are divided into two subgroups based on the functions performed. Postal agencies are the only service typically present in A-type subcenters together with the combination of three or four of the following eight services occasionally present: district commissioners, police stations, post offices, rest houses, gasoline stations, United Africa Company Wholesale outlets, health centers, and main road junctions. One of the following services is also present: local courts, Ghana National Construction Corporation road camps, hospitals, secondary schools or banks. The services are very diffuse and no locational pattern is discernible.

There are a total of 141 centers in the B-type subcenter with a total of 369 services, in a typical range of 1 to 4 in each center. Out of a wide range of services only three occur in more than 25 percent of

the villages: district commissioners, post offices and agencies, and police posts. But police stations, rest houses, gasoline stations and main road junctions closely follow, and the number of United Africa Company Wholesale outlets is comparatively high. None of the services is represented in more than 75 percent of the centers. A definite pattern is discernible in the combination of services: post offices or postal agencies usually accompany district commissioners, police stations, United Africa Company Wholesale outlets, local courts or secondary schools, whereas hospitals and health centers are usually associated with transport services, such as rest houses, gasoline stations or main road junctions. External economies operate even where the distribution of services was not consciously planned. Though low order services typically occur alongside higher order ones, it is not usual for a service that needs a major area for its support to appear in a lower-grade center. Typically, any particular place in the "Minor Center" category is specialized in either communications, commerce, administration, or social services, in that order of frequency. Only 5 places are industrial and 2 mining centers out of a total of 166 urban places. A typical A-type town performs a combination of the following: communications, administration, commerce, and social services. A B-type town usually performs only one function. Most are communication centers, a few are commercial, and even fewer are administrative centers. The lower a center is in its grade, the more narrowly specialized it is likely to be. And conversely, the best way in which the status of a town can be increased is by diversifying its functions rather than developing only one or a few, which can easily create a vulnerable economic base.<sup>19</sup>

The smallest urban places in Thailand's spatial system are Village Markets (mu ban), containing a population of from 160-250 persons, and serving small hinterlands of about 75 km<sup>2</sup> with less than 5,000 inhabitants. In Chonburi Province this category is purely commercial, performing no administrative or public service functions. Typical commercial establishments (which range in number from 18-60) in the

village market comprise: general stores, shops selling prepared food, coffee, soft drinks and whiskey, hardware outlets, a bicycle repair shop, beauty parlor-barbershop, and dressmaker-tailor shop. The Commune Market Center (tambon), the next largest cluster at the village level with a population range of 5,000-7,000, and hinterlands of 250 km<sup>2</sup>, contain some 25,000 inhabitants, and perform the lowest level administrative social service, and wholesale functions in addition to acting as market centers. Between 57-85 separate business enterprises are located in this level of center, and, comprise, in addition to those characteristic of the Village Market: rice and bran shops, stores selling luxury goods, vehicle repair shops and gasoline stations. Wholesalers of soft drinks, beer and whiskey also locate in Commune Centers. Administration is represented by a police station, and social services by a clinic staffed with a midwife.

In Malaysia, kampong towns are small primary centers, generally with less than 1,000 inhabitants, which service hinterlands occupied largely by small-scale farmers and landless rubber tappers. Small stores and market stalls constitute their two types of retail outlets--most sell non-perishable foodstuffs and spices, onions, matches, sugar, tea and soap--and are distinguishable by the permanence of the structure from which the retailer operates, rather than on the basis of goods sold. The periodic market is the most common commercial institution, continuing to be a weekly occurrence in many kampong towns. Sellers are either kampong people, mainly selling either prepared foodstuffs or batik, or itinerant vendors. Batik selling is done mainly by women either at the market or by visiting households in different kampongs each day, regardless of market cycles. There are two groups of itinerant vendors: one includes the small-scale petty traders who buy in bulk from wholesalers for resale on the kampong marketplaces; the other encompasses those sellers who are agents, employees or relatives of town shopkeepers, operating mobile branches selling the store goods along the market circuit. Both the number of vendors and the range of goods displayed may be extensive: for example, of the 21

vendors in one village--5 sell prepared food dishes, 1 fresh fish, 1 fish nets, 4 cloth, 1 dry goods, 6 fresh fruit and vegetables, 1 jewelry, 1 toiletries and batik, and 1 freshly ground coffee. Although the periodic marketplace is primarily a rural commercial institution associated with kampong towns, the daily market plays a central role in the urban structure of the larger agglomerations.<sup>20</sup>

FELDA towns are central places in Malaysia with about 2,000 inhabitants. established on government agricultural development schemes. Goods and services are provided both within and outside the scheme towns. Within the scheme are located a single FELDA Stores Corporation shop and small commercial outlets established by the settlers themselves. Spontaneous centers have evolved in the frontier areas (e.g., Jengka Triangle) where no previous urban or semi-urban centers existed.

FELDA shops provide household necessities--principally foodstuffs, perishables, clothing and footwear. Household durables are not stocked, but can be ordered through the store. Much wholesale purchasing is centrally organized, and staples are often bought directly from either producer or importer. The cheapest market is sought for other goods. Only a few items (e.g., cigarettes and biscuits) are bought locally from itinerant wholesalers. Local trade is small and has limited regional impact in terms of intermediary linkages.

#### CONCLUSION

In brief, developing nations exhibit a wide variety of spatial patterns that perform highly differentiated sets of functions and services. The problem is that in many countries essential components of the spatial hierarchy, especially at the intermediate levels, are missing or not well developed, and that the linkages and interactions among spatial units are absent or poorly integrated. Thus, the dynamics of trade that stimulated commercialization of agriculture and industrialization



in economically advanced nations, and that spread the benefits of growth widely throughout the nation, do not easily occur in developing countries, maintaining both rural and urban poverty and reinforcing the polarizing effects of dualism in economic and spatial structure. The slow, groping, experimental actions that allowed articulated and integrated spatial systems to emerge in more advanced countries can only be stimulated and accelerated in developing nations through careful location of productive investments and social services at strategic points in the spatial system. An integrated package of functional inputs is needed to increase agricultural productivity and expand employment opportunities, but it alone will not generate the spontaneous forces of investment and exchange needed to accelerate development. The functional inputs must be organized and infused at appropriate locations in the spatial system to transform existing activities, making them more productive and more interdependent within a national economy. A strategy for building such integrated systems in developing nations is outlined in Chapter 8, which calls for a "transformational development" approach, identifies the major linkages that create interactions among various levels of the spatial hierarchy, defines the types of services and facilities that should be located at various levels in an articulated spatial system, and provides program and policy recommendations for making the strategy operational.

FOOTNOTES

1. See, for example, R.W. Steel, "The Towns of Tropical Africa," In: Barbour and Prothero (eds.), Essays on African Population (London: Routledge, 1961); and D. Grove, Population Patterns - Their Impact on Regional Planning, Planning Research Studies No. 5 (Kumasi, Ghana: University of Science and Technology, 1963).
2. E. Brutzkus, "Centralized versus Decentralized Patterns of Urbanization in Developing Countries: An Attempt to Elucidate a Guideline Principle," Economic Development and Cultural Change, Vol. 23, No. 4 (July 1975), pp. 633-52.
3. Idem.
4. U.N. Centre, op. cit., p. 112.
5. G. Törnquist, Contact Systems and Regional Development, Lund Studies in Geography, Series B., No. 35 (Lund: 1970).
6. M.J. Taylor, "Industrial Linkage, 'Seed-Bed' Growth and the Location of Firms," Occasional Paper No. 3 (London: University College, Department of Geography, 1969).
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8. A. Gilbert, "Industrial Location Theory: Its Relevance to an Industrializing Nations," In: B.S. Hoyle (ed.), Spatial Aspects of Development (New York: John Wiley, 1974), pp. 271-89.
9. N.R. Kar, "Urban Hierarchy and Central Functions Around Calcutta in Lower West Bengal, and their Significance," Proceedings of the I.G.U. Symposium in Urban Geography, Lund Studies in Geography, No. 24 (Lund, 1960), pp. 253-74, quote at p. 263.
10. D. Grove and L. Huszar, The Towns of Ghana, Planning Research Studies No. 2 (Accra: Published for University of Science and Technology by Ghana University Press, 1964).
11. See Chulalongkorn University, Social Science Research Institute, Chonburi Project: Institutional and Human Resources Development in the Chonburi Region, U.S.A.I.D. Grant AID 493-025-T (Bangkok, 1974).

12. R.A. Obudho, "Urbanization and Regional Planning in Western Kenya," In: S. El-Shakhs and R.A. Obudho (eds.), Urbanization, National Development, and Regional Planning in Africa (New York: Praeger, 1974).
13. S. Chandhuri, "Centralization and the Alternate Forms of Decentralization: A Key Issue," In: R. Turner (ed.), India's Urban Future (Bombay: Oxford University Press, 1962), p. 216; L. Jakobson and V. Prakash, "Urbanization and Regional Planning in India," Ekistics, Vol. 25, No. 148 (March 1968), p. 159; J.A. Davey, "Industrial Development in Rajasthan and Madhya Pradesh, India," Transactions (London: Institute of British Geographers, No. 49, March 1970), p. 184; J.M. Dandekar and N. Rath, "Poverty in India," Economic and Political Weekly, Vol. 6 (1971), pp. 25-48 and 106-46.
14. See Chulalongkorn University, op. cit., passim.
15. See R. Szerezewski, "The Sectoral Structure of the Economy," In: W. Birmingham, et al., A Study of Contemporary Ghana (Evanston, Ill.: Northwestern University Press, 1966), pp. 62-68; and M.B.K. Darkoh, "Toward a Planned Industrial Reallocation Pattern in Ghana," In: S. El-Shakhs and R. Obudho (eds.), Urbanization, National Development, and Regional Planning in Africa (New York: Praeger, 1974), pp. 110-29.
16. M.M. Cohen and H. Brookfield, "Urban and Regional Subsystems in Peninsular Malaysia," Phase 1, Draft report (Washington, D.C.: World Bank, 1974), mimeo., Confidential, pp. 80-99.
17. Idid., p. 99.
18. Ibid., p. 83.
19. Grove and Huszar, op. cit., p. 39.
20. Cohen and Brookfield, op. cit., pp. 89-95.

## CHAPTER EIGHT

### URBAN FUNCTIONS IN RURAL DEVELOPMENT: TRANSFORMING SPATIAL SYSTEMS IN DEVELOPING COUNTRIES

Until the late 1960s development was equated largely with economic growth and plans focused on increasing gross national product and expanding industry in urban centers. Both economic theory and development policy, it was noted earlier, assumed that industrial growth generated by increased exports and import substitution would "trickle down" from the industrial metropolis to rural areas, and that benefits would be equitably distributed to smaller cities, and eventually, to the rural poor. The history of the post-War period, however, yields little evidence that the trickle down process worked. Instead, the gap between rich and poor countries grew, income distribution within developing nations became more inequitable, and their spatial structures more dualistic, characterized by the continued dispersion of underproductive villages and the rapid growth of overextended primate cities.

But the growing number of poor people in developing nations can be only partly attributed to ineffective development strategies. More critical have been rapid population increases and the inability of developing nations to build productive spatial systems that integrate urban centers and rural hinterlands into mutually supporting networks of production and exchange. When, in the mid-1960s, international assistance programs shifted their focus from industrial to agricultural development; however, they became preoccupied with increasing agricultural output, virtually ignoring the problems of the rural poor and disregarding the overall productivity of rural areas as components of a larger spatial system. As a result, food production increased only incrementally, rural-urban migration continued rapidly, and the quality of rural life steadily deteriorated. Prompted by the shortcomings of previous strategies, international assistance agencies and governments

of developing countries began, in the early 1970s, to search for alternatives that focused development efforts more clearly on growth with equity by increasing rural productivity, deconcentrating investments, expanding non-agricultural employment and extending basic social services and facilities in rural areas.

Implementation of the strategy requires that a wide variety of technical, economic, administrative and political resources be combined into multi-purpose, integrated programs and projects seeking to overcome the fundamental obstacle to equitable distribution of growth in developing nations: their unarticulated spatial structures. For without the types of spatial systems that generated self-sustaining development in more wealthy countries--villages, market towns, small cities, intermediate and regional centers linked to rural hinterlands and to metropolitan areas--the productive capacity of rural regions cannot easily be increased. To attain the goals of the new development strategy, urban and rural functions must be integrated into a national system of production and exchange. Developing nations must establish preconditions for increased public and private investment in village service centers, market towns, and intermediate cities, allocate increased resources to services and facilities in each of those central places and expand their productive capacities and urban amenities. Investment should strengthen those linkages that integrate central places into a national economy.

That strategy calls for a drastically different approach to development than those pursued in the past. Integrated urban-rural development strategy can only achieve its goals in resource scarce countries if it uses and builds on existing spatial structures, organizational arrangements, economic and social institutions and culturally acceptable methods and practices, transforming them into more productive instruments of growth and change. This chapter attempts to delineate such an approach. It outlines a conceptual framework for integrated spatial policy: identifying the major urban services and facilities needed

at various levels of a well-articulated spatial system, describing linkages that integrate a spatial structure and promote social and economic transformation, and finally, outlining the policy and program implications of pursuing a "Transformational Development" approach.

The transformational approach seeks to identify and use existing, culturally embedded resources, institutions and human capabilities, combining them with appropriate modern technologies and organizational arrangements to propel Third World countries from their present state of "underdevelopment." A country or region is considered underdeveloped when it has all or most of the following characteristics: low per capita incomes, wide income disparities, low literacy rates, high birth and death rates, few public facilities, education, health or welfare services, and a large proportion of the population subsisting outside the monetary economy. Underdeveloped areas, moreover, use traditional, low-yielding, agricultural methods incapable of meeting basic nutritional requirements. They have a predominance of craft, cottage and processing industries, limited market development, poor administrative capacity for local self-governance, and an inadequate system of communications. Weak linkages between rural areas and urban centers leave large segments of the population relatively isolated, maintain a highly dualistic spatial structure composed of masses of widely dispersed, generally under-productive rural villages at one extreme and burgeoning primate cities at the other, stunting the growth of intermediate central places and encouraging high rates of rural to urban migration.

Developed nations, on the other hand, exhibit the obverse of these characteristics. They are usually endowed with a more spatially balanced system of settlement in which dispersed market towns and intermediate cities are linked to each other, to their rural hinterlands and to major metropolitan areas. Each element of the spatial system performs specialized functions based on comparative advantage,

and engages in a system of exchange that distributes income and wealth equitably throughout the country. Social, health and welfare services as well as the principal factors of production are available and relatively accessible to those who need and can use them.

#### SPATIAL LINKAGES AND TRANSFORMATION

Integrating communities and their productive activities into a national economy is the core of transformation strategy. Neither the goals of increased productivity and income expansion, nor those of greater equity in income distribution can be attained without increasing interaction among villages, market towns, intermediate cities and metropolitan areas in developing nations, without integrating urban and rural functions into a national spatial system. Spatial integration transforms societies and accelerates modernization.

Integration promotes transformation at every level of the spatial hierarchy and at every stage of a nation's development. Dalton observes in peasant village societies, for example, that ". . . modernization consists of displacing local dependence with external dependence on markets, and by so doing integrating the village community into the region, the nation, and through foreign trade transactions, the rest of the world."<sup>1</sup> Expanding networks of mutually dependent organizations and communities generates ". . . new common cultural identity--shared values and attitudes--as well as new equipment and diversified lines of production."<sup>2</sup> Integration of subsistence communities into the national economy increases incentives and opportunities for commercialization and for distributing services and facilities needed in rural areas. Integration is also essential to national development, for commerce and trade cannot be extended without linking local or peripheral markets to major metropolitan centers. Increased linkage contributes to national development by putting scarce resources to more productive use and by distributing more widely the

factors of production. "This involves something quite different from 'enclave development,'" Uphoff and Ilchman contend, "where a new activity, productive within its narrow boundaries, is introduced, though with few linkages to the rest of the community."<sup>3</sup>

Transformation of communities and productive activities--the evolution of subsistence into commercial farming, of simple handicrafts into specialized processing and manufacturing, of scattered and isolated economic activities into concentrated nodes of production integrated into a national system of exchange--requires a well-articulated spatial structure. Centers of various sizes, specializing in different economic and social functions, must be linked to each other through a network of physical, economic, technological, social and administrative interaction. The linkages--patterns of transaction among groups and organizations located in spatially dispersed communities with sufficient threshold sizes of population to support their own specialized activities--are the primary means of expanding the system of exchange and transforming underdeveloped societies.

Even a cursory examination of developing nations where elements of such a spatial system have emerged provides insights into the types of linkages essential for transformation and the patterns of change they set in motion. Two fundamental observations seem valid for all developing countries with elements of spatial articulation. First, increase in the number and diversity of linkages and the growth or transformation of development centers--from villages to market towns, market towns to small cities, small cities to intermediate urban areas--are inextricably related. In some cases new linkages--extension of road networks, river transport or rail connections--promote growth and diversification in existing centers or generate new central places, whereas in others the appearance of new productive activities promotes increased linkage between central places and the rest of the spatial system. That is, some linkages promote accelerated growth of villages, market towns, and intermediate cities, and others result from nodal



growth. To distinguish particular cause and effect relationships, however, is often extremely difficult because nodal and linkage growth may take place simultaneously or because a complex set of changes may occur in rapid succession.

Secondly, the variety of linkages that integrate urban and rural areas into an articulated spatial system are themselves inextricably linked. Creation of one new linkage may produce a "cascade effect" making other activities and linkages possible, and promoting the growth of existing or new central places. Once a new set of linkages is introduced into a rural market system it can trigger a set of "circular and cumulative changes" toward further growth and change. Simply improving transportation between villages leads to reorganization and expansion of existing periodic markets. Displacement of weak or unsuccessful markets, and redistribution of commerce can create entirely new markets and increase the demands on the transport system.<sup>4</sup> New urban-rural physical linkages can change the flow of economic resources, the spatial pattern of social and economic interaction and the movement of people. Closer interaction among villages, market towns, intermediate cities and major metropolitan areas makes it less expensive and more convenient to integrate technology at each level of the spatial hierarchy, and to distribute more widely services that fundamentally transform organizational and political relationships.

A complex set of linkages transforms and integrates urban and rural areas in developing nations. Physical, economic, technological and social linkages and population movement, service delivery and political, administrative and organizational patterns play potentially important roles in the transformation of unarticulated spatial systems. (See Table 15.)

#### Physical Linkages

The spatial integration of communities results mainly from physical

Table 15  
MAJOR LINKAGES IN SPATIAL DEVELOPMENT

TYPE	ELEMENTS
Physical Linkages	Road Networks River and Water Transport Networks Railroad Networks Ecological Interdependencies
Economic Linkages	Market Patterns Raw Materials and Intermediate Goods Flows Capital Flows Production Linkages--Backward, Forward and Lateral Consumption and Shopping Patterns Income Flows Sectoral and Interregional Commodity Flows "Cross Linkages"
Population Movement Linkages	Migration--Temporary and Permanent Journey to Work
Technological Linkages	Technology Interdependencies Irrigation Systems Telecommunications Systems
Social Interaction Linkages	Visiting Patterns Kinship Patterns Rites, Rituals and Religious Activities Social Group Interaction
Service Delivery Linkages	Energy Flows and Networks Credit and Financial Networks Education, Training and Extension Linkages Health Service Delivery Systems Professional, Commercial and Technical Service Patterns Transport Service Systems
Political, Administrative, and Organizational Linkages	Structural Relationships Government Budgetary Flows Organizational Interdependencies Authority-Approval-Supervision Patterns Inter-jurisdictional Transaction Patterns Informal Political Decision Chains

linkages--natural resource interdependencies and man-made transportation networks. Human ecological relationships in most peasant societies provide basic opportunities for social interaction and economic exchange. Biophysical links--ecological relationships among landforms, soils, minerals, water, vegetation and wildlife--limit possible and feasible developmental changes and create opportunities for new productive activities. Natural resource linkages integrate urban and rural communities within a region and determine the comparative advantages of each community.

Transportation networks--roads, rivers, water channels and rail systems--are among the most important linkages for integrating spatial systems. They reduce travel time, lower shipping costs, widen marketing, commuting and migration opportunities, allow greater access to non-agricultural employment, improve communications and extend areas of service delivery. Nations investing heavily in road networks have achieved substantial gains in agricultural production and capacity. A USAID survey of Nicaragua, for instance, found that creation of farm-to-market road networks during the 1960s " . . . has pulled together in one national market what a decade ago were dozens of small autonomous economic regions." Access roads " . . . have been particularly significant in bringing national markets up to the farm gate of a significant number of remote and marginal small producers."<sup>5</sup> Development of an all-weather road system in Ethiopia during the late 1950s and early 1960s reduced truck travel time between Addis Ababa and the town of Assab, located 561 km from the capital, from 15 to a little more than 2 days, cut the travel time between the capital and the town of Jimma (335 km) from 2 weeks to seven hours, and from the town of Debre Marcos (305 km) from 8 weeks to nine hours. Improved road linkages between the metropolis and outlying towns brought agricultural goods from rural areas within easy reach of major national markets and distribution points at Addis Ababa. They reduced road freight costs, which in turn lowered the total costs of goods at market, and led to expansion of Assab as Ethiopia's main port and to the location of major industrial

activities in other inland towns.<sup>6</sup>

In many parts of East Africa, farm-to-market roads have promoted new markets, increased interaction among villages, linked agricultural production areas to crop collection and distribution centers, and made new crops economically viable.<sup>7</sup> Communities in Latin America without strong physical linkages to the rest of the spatial system are plagued with low social mobility, localized agriculture, a predominance of handicraft industries; they consume nearly all of their own agricultural products and engage only sporadically in outside trade. Building transport linkages broadens the radius of trade and increases productive capacity. Where networks have been created in Latin America, particularly in Colombia and Brazil, well-integrated regions have grown into diversified economies.<sup>8</sup>

#### Economic Linkages

A related set of economic linkages is also needed to promote spatial integration. Most important are market networks, commodity, raw material and intermediate goods flows among central places, capital and income flows, consumption and shopping patterns, and forward, backward and lateral production links among commercial and manufacturing activities within urban centers and among them.

Broadening market linkages, as Johnson, Skinner and others have argued, is a primary force in commercializing agriculture, diversifying production and expanding the spatial system of exchange. Skinner notes in his classic study of market towns in China, that they were " . . . the starting point for the upward flow of agricultural products and craft items into higher reaches of the marketing system, and also the downward flow of imported items destined for peasant consumption."<sup>9</sup> Since the market town is the main channel by which rural people obtain basic goods and services in return for their agricultural products, the impact of vertical coordination of marketing systems can have

widespread effects, providing substantial benefits to the farmer. Vertical coordination of food marketing systems in Latin America has increased farmers' bargaining powers by improving price information and by increasing market competitiveness, reduced transaction and physical distribution costs by standardizing marketing procedures and by allowing farmers to use more efficient means of transportation to ship their goods. In addition, vertical linkages reduced losses and improved quality by establishing incentives to standardize grading, processing and packaging.<sup>10</sup>

The combination of transport and market linkages encourages the growth of nested and integrated markets, expanding patterns of exchange for basic commodities, and ensuring broader geographical access to goods and services. The emergence of an intermediate city relatively well connected to a system of rural market centers and to a larger metropolitan area, generates a marketing pattern as shown in Figure 1 for the Chonburi Region of Thailand. Chonburi Town, an intermediate city serving as a central place with a wide variety of secondary and tertiary economic activities, links rural areas in its region both with each other and with the larger national economy. Areas lacking both market towns and transport connections remain relatively isolated from trade and access to services, whereas those within the transport and market networks linked to Chonburi Town have access to both its services and markets in Bangkok, as well as to other regions in Thailand and abroad.

The extension of market linkages also creates incentives for other types of economic interaction. The growth of intermediate cities in Korea, for instance, linked urban markets strongly with rural hinterlands, and encouraged growth of manufacturing and commercial services within the cities. Backward and forward production linkages increased demand for construction and crafts, generated substantial employment for semi-skilled laborers and craftsmen, widened the market area for rural products and attracted part-time workers from surrounding

Figure 1  
 MARKETING AND TRANSPORT NETWORKS IN  
 CHONBURI THAILAND

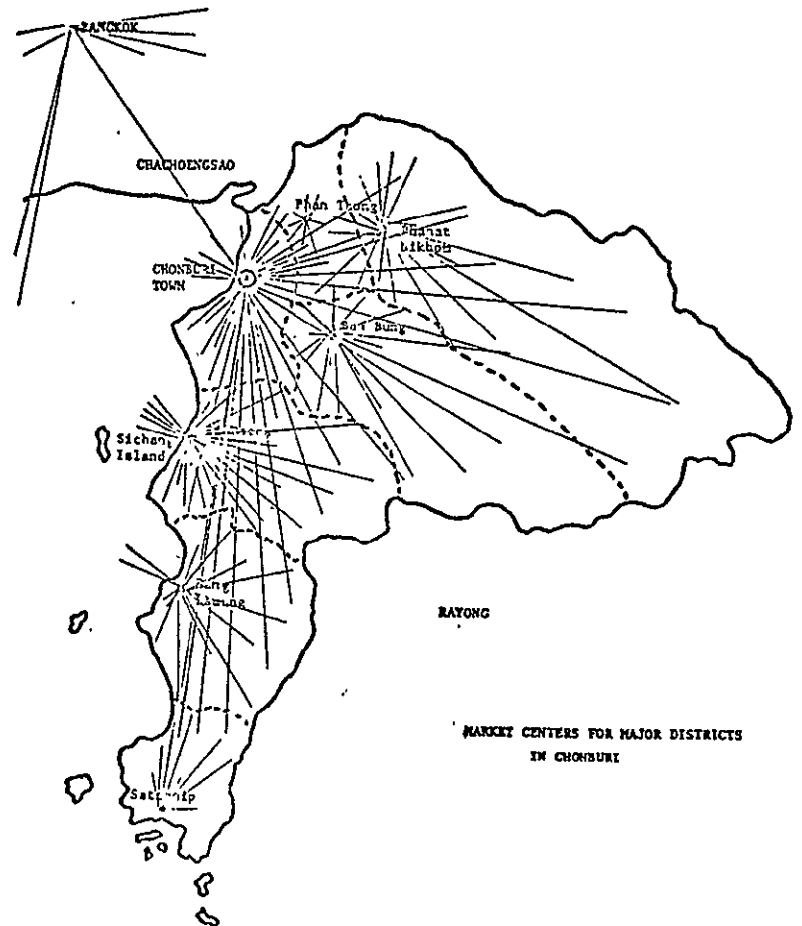
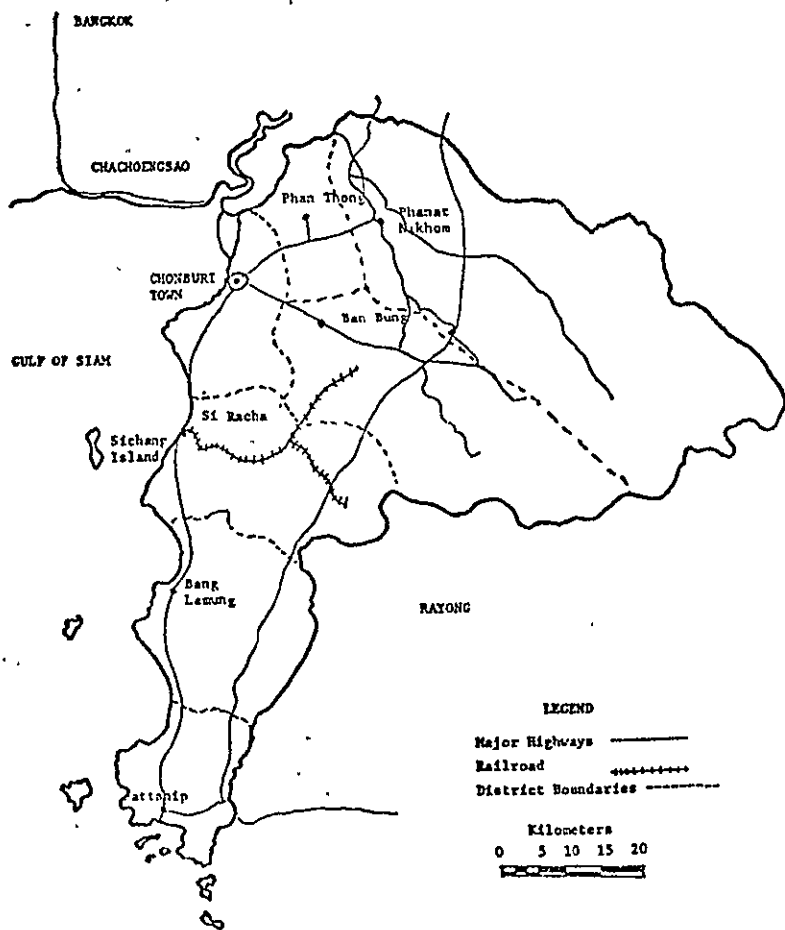
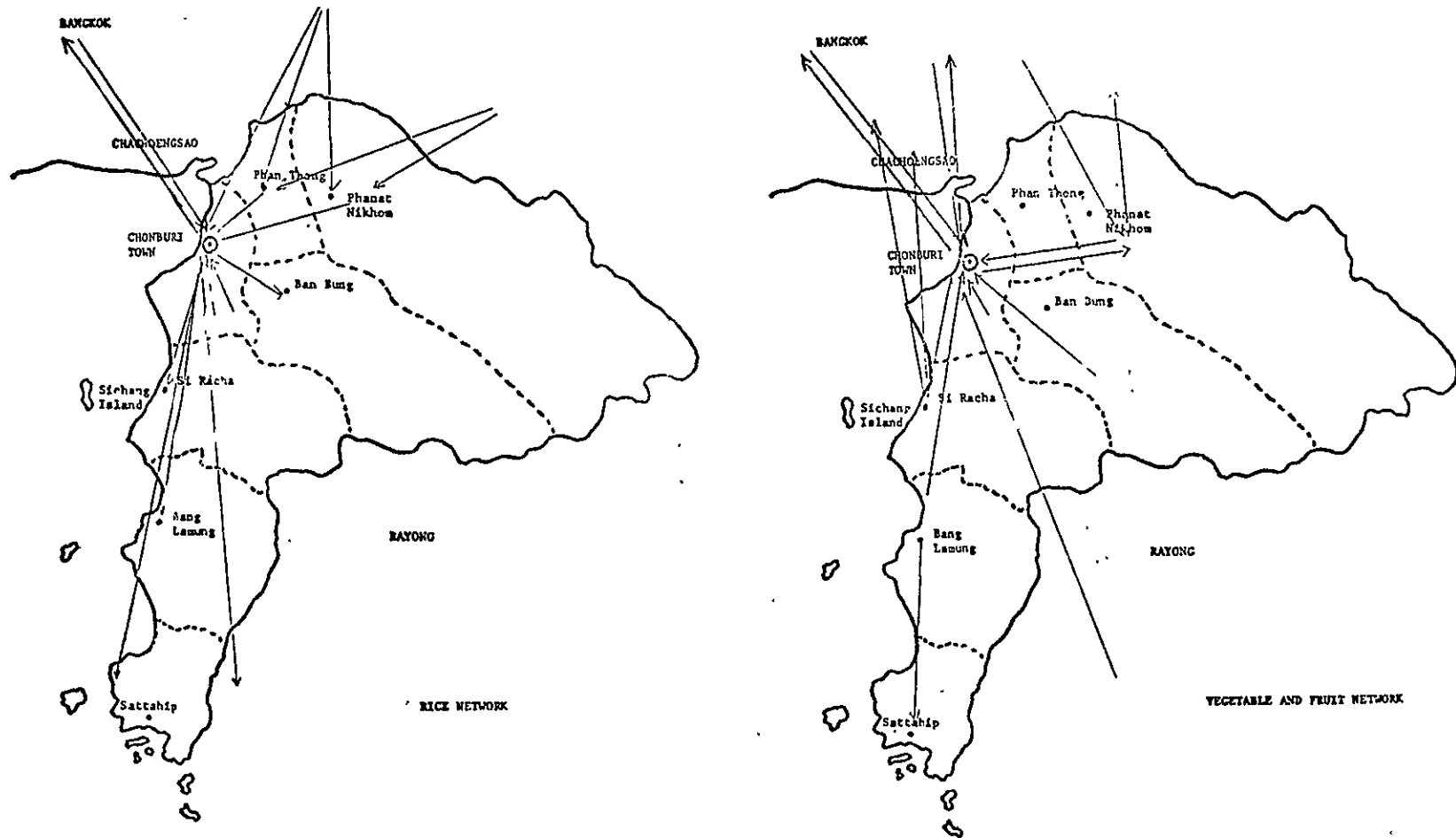


Figure 1 (continued)



Source: Pongsapich, Hafner, Veerawong, and Sirisamphan, Institutional and Human Resources Development in the Chonburi Region.

villages by providing off-farm employment.<sup>11</sup> Growth of such middle-size cities as Taegu, during the 1960s, forged a complex set of new economic ties between the city, smaller market centers, and with the larger cities of Seoul and Pusan. As Taegu became more specialized in textile manufacturing, for example, it provided employment for rural migrants, generated related industries, raised incomes within the city, and generated demand for vegetables, meats and other agricultural products. Gradually, agricultural resources were used more productively, generating higher incomes per unit of land. New urban-rural production linkages were established, initiating a "cascade effect" of investment in industries, services and commercial activities. Once the intermediate city began to grow, the demand for farm implements and machinery increased rapidly. Urbanization and decentralization of industry accelerated rural modernization--"and modernization of the surrounding rural sector contributes to the industrial and commercial growth of the city, by providing a market . . . for more consumption goods wanted by farmers," one analyst contends, and "with better roads, people go to town more often even though they would seldom go to Seoul."<sup>12</sup>

The flow of commodities and manufactured goods is strongly influenced by the degree of spatial articulation within developing countries. Intermediate cities, in particular serve as redistribution centers. Chonburi Town in Thailand, for instance, serves its region as a channel of commodity flow and a redistribution center for sugar and tapioca, fish and fish products, rice, poultry, and fruits produced in the rural hinterlands for shipment to Bangkok. Vegetable market networks through Chonburi serve the needs of both local producers and consumers; middlemen in Chonburi sell vegetables grown in Chonburi to Bangkok and Chachoengsao and buy other vegetables to be consumed in Chonburi.<sup>13</sup>

In well-articulated spatial systems, moreover, strong linkages develop between inward and outward flows of goods and commodities, through organizations responsible for both export and import functions.

"The development of cross-linkages, whereby outward and inward goods



pass through the same hands or form the basis for value addition to goods in one or the other flow, would seem to be basic to departure from the dependency pattern of staple base economy," note Cohen and Brookfield.<sup>14</sup> Yet, in most developing nations the lack of spatial articulation obstructs the evolution of such linkages, which are unlikely to emerge spontaneously without central places large enough to support organizations capable of managing multiple functions.

#### Population Movement Linkages

Short-term and permanent migration is a ubiquitous characteristic of development and an important form of urban-rural linkage. Temporary migration and journey-to-work, more strongly than other forms of spatial interaction, depend on transportation and communication linkages between urban and rural areas, and on the location of industrial activities in intermediate cities and smaller towns. More permanent migration depends on a wider range of economic and social determinants, including the availability of jobs in towns and cities; wage, public service and educational opportunity differentials between cities and villages; and the distance, cost and convenience of moving. Rural people, given potential job opportunities and convenient means of travel, are more likely to migrate to a city where they have friends or kin.<sup>15</sup>

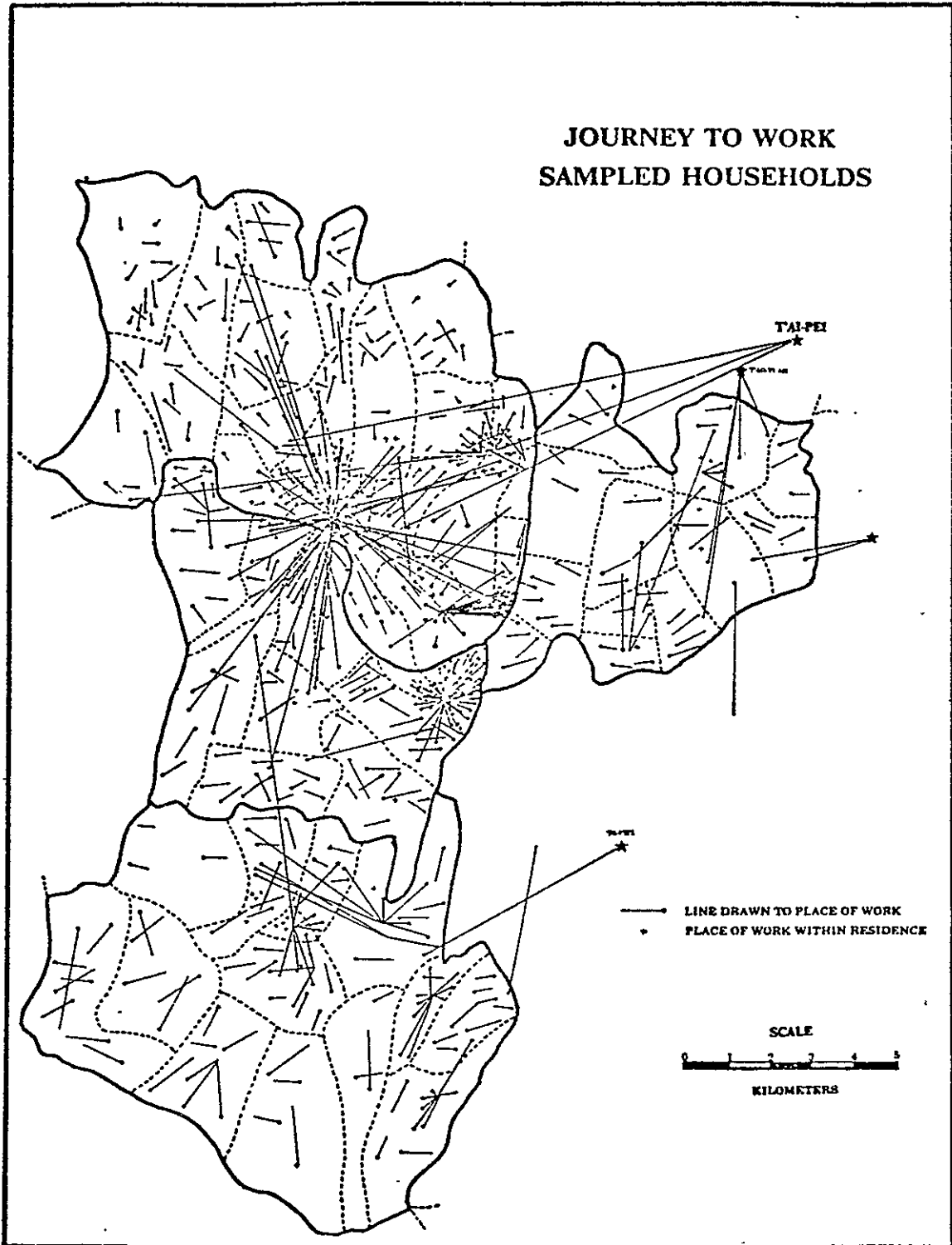
Studies of tropical Africa indicate that where they exist, province towns and intermediate cities attract migrants who either move to them instead of going to the primate city or use them as temporary way-stations before moving to the metropolis. Although much of the migration in Africa is "rural-urban-rural," with frequent return trips to the village, the emergence of small towns or intermediate cities can drastically alter movements if they provide work, education or increased access to public services and amenities.<sup>16</sup> In Africa, population movements are less a function of distance than of spatial articulation, with smaller towns having " . . . quite restricted ranges, while the larger urban places exert their influence over much wider areas."<sup>17</sup>

Although little is yet known about the effects of decentralized urbanization on population movements in developing countries, scattered evidence suggests that the creation of market towns and intermediate cities can have a significant influence on both migration and journey-to-work. Where villages are widely scattered and central places have not emerged, journey-to-work patterns tend to lack nodality; people move short distances from their homes to fields or from their homes to small shops and processing plants. Some commute to special facilities and activities such as military reservations, larger plantations or commercial farms and to nearby cities. Figure 2 indicates a typical journey-to-work pattern for a relatively unarticulated regional economy. The concentration of economic activities in market towns and small cities, however, generates a greater volume of journey-to-work traffic and significantly increases nodality. The development of a nodal journey-to-work pattern in turn influences a number of other linkages including capital, commodity, income and market flows.

Emergence of diversified market towns and small cities can also alter the flow of migration from rural areas to major metropolises and create a pattern of step-wise migration. Growth of towns in rural Pakistan which experienced rapid agricultural commercialization during the 1960s as a result of the Green Revolution, stemmed the tide of people pouring into the primate city, and redirected many of the migrants toward smaller central places. Between 1951 and 1972 small town populations increased by 3.6 million whereas large cities grew by 5.4 million; by the early 1970s towns grew faster than major urban places. Small landowners, whose land value increased rapidly during the Green Revolution but who could not compete with owners of middle and large size farms, sold their land, moved to the towns and sought opportunities for investment. As town migration increased it set in motion a set of multiplier effects; it increased demand for goods and services, generated new investment and economic diversification, expanded the range of social and economic activities, and provided greater job opportunities in the towns, thereby increasing further

Figure 2

JOURNEY TO WORK PATTERNS IN RURAL TAIWAN



Source: Knapp, "Marketing and Social Patterns in Rural Taiwan," p. 146.

the immigration of rural people, mostly landless laborers. The initial impetus for more stable town growth in the regions of rising agricultural productivity was expansion of small scale engineering industries that provided technical inputs, agricultural supplies, farm implements, pumps, engines and strainers required for the cultivation of high yielding crop varieties.<sup>18</sup>

### Technological Linkages

Developing nations need a variety of technologies, appropriate to different social, economic, technical and administrative capacities of communities of different sizes and stages of development. Technology--equipment, procedures and methods of production--must also be integrated spatially and functionally, since no single technological innovation will promote social and economic transformation in developing nations unless it is appropriate to local needs and conditions, and linked to both higher and lower levels of technology and related inputs.

The Green Revolution demonstrated that a spatially linked network of technologies is needed to make the introduction of new high-yield seed varieties successful, with technical inputs coming from both urban centers and rural areas. The components, equipment, and skilled manpower needed to test new seeds, construct irrigation systems and operate new equipment are likely to be drawn, in most countries, from urban areas. Fertilizer, needed in large amounts to achieve desired results with Green Revolution hybrids, must be manufactured using chemicals and petroleum products imported through large cities; its distribution to farmers depends on the existence of transportation networks between urban and rural areas and within rural regions, and on the extension of urban services and facilities to fertilizer production sites.<sup>19</sup>

The spatial implications of technological linkages are frequently overlooked in development planning, but their importance is vividly

demonstrated by the introduction of mechanized agricultural technology in Asia. Production of agricultural machinery in Taiwan, India and Pakistan is divided among rural blacksmiths and carpenters, urban workshops located in market towns and small cities and capital intensive firms located in larger urban areas. In India and Pakistan, village artisans working with crude hand tools and basic materials available locally, do most of the repair work on farm equipment, except for tractors and power tillers; urban workshops are more specialized in repair services and can produce more sophisticated components for mechanized farm equipment using power tools. Tractors and tillers are usually manufactured by only a few large firms located in the primate cities and working in collaboration with major international corporations. Linkages among these organizations at the three levels in the spatial system are crucial, for as Johnson and Kilby note, ". . . the success of the farm equipment industry in providing effective inputs for agriculture is largely determined by the extent of interconnections that exist among the three sectors."<sup>20</sup> Spatial linkages are critical to agricultural technology industries in these countries.

Many urban workshops are established by progressive village artisans or rural blacksmiths who migrate there to become apprentices, later going into business for themselves. Large urban manufacturers depend on both the small town urban workshops and the village artisans to service their equipment, make new parts and repair components, since the firms cannot establish their own repair services in each village and be competitive with local artisans. Because of the high level of investment required for large firms to produce standardized parts, the major manufacturers of farm equipment must subcontract the work to urban workshops which make interchangeable components to the specifications of the contracting companies.<sup>21</sup>

Spatial and organizational linkages are even more crucial to capital intensive industrial technologies. To have an impact on development,

capital technologies must be introduced into industries with strong backward and forward production linkages and in countries where there are strong connections between government scientific programs and private sector activities. As Parent points out, each branch of a major industry " . . . produces linkage effects which spread to other apparently quite unconnected industries," and the impact of the new technology in a leading industry will then depend " . . . on several factors including the importance of the originating industry in total industrial production, the number of its direct connections with other industries, and the number of industries affected which are really operating in the country. If the supporting industries are missing, attempts to establish leading industries will fail."<sup>22</sup> Similarly, if elements of the spatial structure which allow industry to disperse geographically are missing, technological linkages and channels of innovation will not develop to promote widespread growth.

#### Social Linkages

Market towns and intermediate cities do more than generate physical and economic activities, they are the focal points for a wide variety of social linkages among development centers and between those centers and their rural hinterlands. Market centers perform many social roles in rural areas; indeed, in many African countries, economic exchange functions grew out of traditional social gatherings and rituals. The types and frequency of economic activities were closely linked to social events.<sup>23</sup> Traditional African markets provided an important locus of social interaction, " . . . the marketplace would be used for games and dances, and the market itself was certainly not viewed by the people as simply an economic event."<sup>24</sup> In Africa, markets remain meeting places for sports and competitions; in Asia and Latin America they contain a variety of social facilities-- restaurants, bars, baths, churches, temples, and cinemas--attracting people from the villages not only to exchange goods and services but also to engage in recreation and to meet friends, acquaintances, and kin.

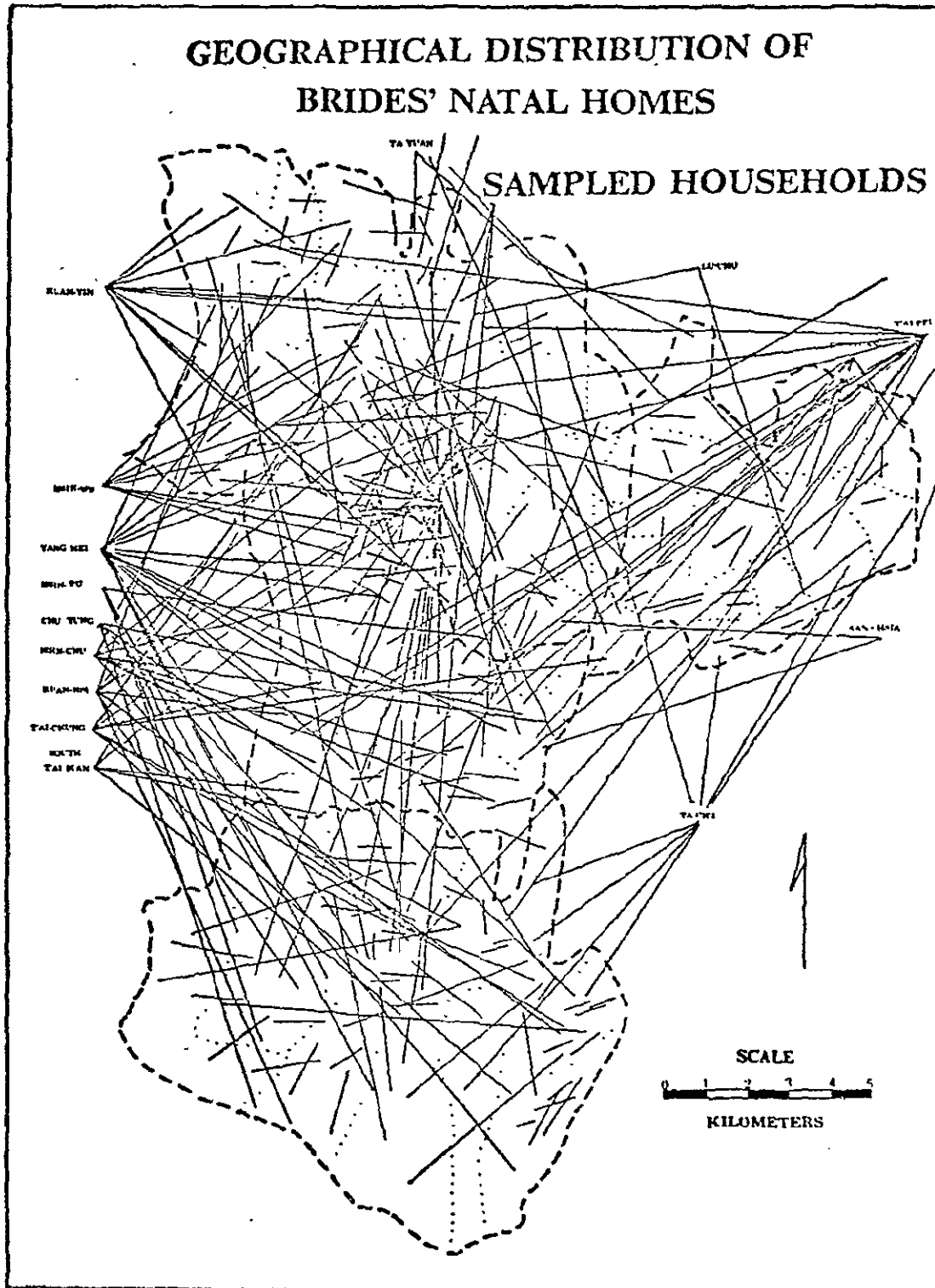
The growth of market towns in China, as in other Asian countries, had a profound effect on rural social interaction. Skinner observes that they provided a spatial focus for social interaction within a diffuse trading area. Because people made regular visits to the market throughout their lifetime, even the poorest farmers came to know almost every other adult in the marketing area; marriage arrangements were most often made from within the trading boundaries; credit and lending decisions were based on people's reputations formed through frequent market transactions; and the acceptance of common criteria of exchange, such as standard weights and measures, evolved from the need to maintain social harmony among disparate villages and groups within a trading area.<sup>25</sup> With market expansion and increasing commercialization of agriculture, periodic markets evolve into permanent places of exchange, daily markets displace smaller, infrequent exchange points, and diffusing social linkages promote increasing social and spatial integration. Widening market areas extend the spatial range of social interaction, of even such traditional linkages as marriage arrangements, steadily integrating smaller clans, communities and villages, promoting new kinship ties and visiting patterns, transforming social group and organizational relations.<sup>26</sup> (See Figure 3)

As daily markets displace periodic markets, and as smaller marketplaces disappear from the spatial system, farmers are forced to interact with villagers from a larger area. Skinner observes that although cultural lag allowed many traditional social linkages to survive in China, the displacement of periodic markets eventually forced new patterns of social activities to emerge and ". . . inevitably the social horizons of the peasant--now in the process of becoming a farmer--are extended toward the limits of the larger trading area. The range of his acquaintances expands to include initially townspeople and eventually residents of villages elsewhere in the trading system. The marriage area of his village is likely to grow accordingly."<sup>27</sup>

As the area of social interaction increased, causing a breakdown of

Figure 3

MARRIAGE ARRANGEMENT PATTERNS IN RURAL TAIWAN



Source: Knapp, "Marketing and Social Patterns in Rural Taiwan," p.153.



face-to-face coordination, new social and organization arrangements evolved--not the least of which was the proliferation of middlemen and brokers to perform an increasing number of functions--maintaining harmony, interaction among a larger number of people, and performance of a greater number of social and economic activities. "Intimate knowledge of, and effective concert within, a system embodying 50-75 villages is simply infeasible;" Skinner argues, "and in time the cooperation which has been embedded in the natural system centered on the standard market becomes pointless or at best anomalous."<sup>28</sup>

Thus, social linkages forge ties between market towns and intermediate cities, and the emergence of these two types of centers, in turn, fundamentally alters social interaction patterns. The relative diversity of activities in intermediate cities, for instance, is an attraction to rural people in deciding where to shop and market, even when smaller towns are closer to their homes. The recreational and social opportunities afforded by middle size cities are often the primary reasons for extended shopping trips. "When Taiwanese peasants decide where to go to do their shopping they are not necessarily guided by the factors that go into making up the 'rational economic man' so beloved by economists and classic central place theorists," argues one anthropologist:

With time on their hands, money in their pockets, and busses, motorcycles, and bicycles readily available, they are apt to ignore time and distance factors and pay attention to entertainment value. There is no question about the fact that central towns with their gaudy streets, bustling crowds, blaring moviehouse sound-tracks and the even chance they afford to witness a funeral, a fight, or the girls in the tea-house, are eminently more appealing to the Taiwanese than the dusty streets, tawdry shops and sleeping dogs that typify standard towns.<sup>29</sup>

Social linkages change most drastically with the emergence of intermediate cities. Traditional family and kin relationships change as younger people are attracted to middle cities to seek employment and education;

younger people living in larger urban areas tend to marry at a later age, to have smaller families, to maintain conjugal rather than extended families and to achieve higher levels of education and training than their rural counterparts. They are exposed to a wider spectrum of ideas, social behavior, attitudes, modern techniques and diverse living styles.

Middle range cities, more socially heterogeneous than either villages or market towns, mix new and more diverse social activities with traditional practices and behavior, and provide yet another impetus to social transformation. Evidence from the study of middle cities in India suggests that new social patterns and linkages blend in transforming trade relationships. Competition for capital is greater in intermediate cities than in rural market towns because access to credit is based more on objective criteria than personal obligation. Market relationships, even in bazaar sectors in intermediate cities, tend to be unlike their rural counterparts, characterized by fixed prices, stable client-patron relationships, and frequent use of credit as a substitute for cash or in-kind bartering. The network of social linkages established in middle cities affords greater opportunities for social and economic interaction with other intermediate cities and with larger metropolitan areas.<sup>30</sup>

#### Service Delivery Linkages

Increasing the physical, economic and technological linkages among central places is critical to expanding service delivery networks in developing nations. Urban centers and rural areas must be closely linked in order to distribute social and commercial services more widely and to increase the access of rural populations to urban amenities. Nearly all services require the support of a minimum number of people concentrated in a limited geographical area, a "threshold population" of sufficient size and density to attract enough customers to earn profits for suppliers of commercial and professional services and to

allow public services to reach the largest number of people at the lowest cost. Threshold levels for services vary widely; and because each service has a specific threshold, the types, degree of specialization and delivery range of services found in any given community depends on the size and density of its population, its occupational profile and income distribution, transportation access and economic diversification. All other things being equal, the "hierarchy" of services in a region is closely correlated to the hierarchy of central places. Larger population size and higher density create economies of scale that allow services to be offered at lower cost.

Services also have different "ranges of influence," the distance over which they can be extended or that people will travel to purchase or use them. The larger the area of influence and the more densely concentrated the users within that area, the more efficiently services can be provided, especially those requiring physical facilities or infrastructure for delivery such as water, sanitation, energy and health. The World Bank points out that per capita costs of supplying water and sanitation services increases substantially with smaller communities: ". . . sector characteristics change markedly as one progresses from large urban centers, through medium sized cities, small towns and villages, to the dispersed population. The administrative structure becomes more diffuse, income levels decline, and per capita costs for equivalent levels of service tend to increase."<sup>31</sup> In areas with widely scattered populations and small central places there exists less institutional, financial and technological capability to deliver services efficiently.

Most developing countries require a hierarchy of services with a range of components appropriate to the needs and support capacity of different levels in the spatial system. Public health services, for instance, can usually be efficiently provided to widely scattered villages and hamlets only in the form of small clinics that offer basic preventive treatment, first aid, maternity care, and perhaps family planning

information, staffed by a nurse or paramedic. Small hospitals with basic treatment and diagnostic facilities, and with either a visiting or part-time physician, a nurse or paramedic requires a larger service area and usually is found only in large market towns or small cities. A full services general hospital with a small staff of doctors and more extensive diagnostic and treatment equipment is most often found in intermediate cities or regional centers. Diversified, specialized medical centers with a staff of full-time physicians and technicians, containing more sophisticated diagnostic and treatment equipment, can usually only be supported by major metropolitan areas.

The creation of an articulated spatial system also allows informal social services networks to emerge. Middle size cities in addition to supporting a wide diversity of formal social, commercial and professional services, for instance, act as informal educational service and training centers for their rural hinterlands. A study of Chonburi, a major regional center in Thailand concisely describes this role:

Chonburi is the central place for repair work and many young people prefer to be trained and to work in these industries. Most young people who want to have a vocation find semi-skilled and skilled training a rewarding experience. Young men join the mechanical-repair and welding shops while young women learn to sew. Most of those young people start as apprentices and improve their skills as they work. Repair services and personal service industries can develop in a town and often not in a village. The needs for such services in the village are often not large enough to make the establishment of the services worthwhile. Young people migrate to town, are trained, and subsequently have a vocation. Most of the skilled and semi-skilled workers remain there and do not return to the village. The quality of town labor force is better than that in the village as a consequence. Through training, many of the skilled workers have moved up the social scale and belong to the middle class level instead of the lower level.<sup>32</sup>

In areas where central places are not large enough to support basic non-agricultural economies social services can often be delivered only by linking them together in a "package." Family planning in India, for instance, must be linked to general rural health services. Family planning information and birth control devices are provided by auxiliary nurse-midwives who work with traditional midwives to improve maternity care, child immunization services and nutrition programs.<sup>33</sup> In other countries service delivery linkages are established between towns and rural areas by sending government administrative teams to the hinterland. In Chonburi Province of Thailand, for instance, because rural people dislike going to district offices, visiting teams of officials accompany the province Governor to different communities twice a month, extending province service to the villagers, assessing needs and hearing complaints. The visiting teams provide health and veterinary services, advice on agricultural production, issue marriage licenses and help settle land disputes. The team locates in a tent where people may come all day, and a small group of officers often visits a sample of households to seek suggestions, hear complaints and provide advice.<sup>34</sup>

#### Political, Administrative and Organizational Linkages

Finally, spatial systems are integrated and transformed through a set of political and administrative linkages reflected in formal government structural relationships, flows of public budget resources, administrative authority, supervision and approval patterns, transactions among government jurisdictions, informal political influence and decision chains, and interdependencies among spatially dispersed specialized organizations.

Linkages among central places evolve because in nearly every developing nation government functions, services and resources are fragmented among organizations and jurisdictions. In the Philippines, for instance, municipalities provide such services as police protection, public utilities, market facilities, sanitation, basic health and primary education to rural areas, barrios and villages. Cities perform similar

functions in addition to maintaining secondary schools, hospitals, parks and city streets and roads. Provinces provide area-wide services such as provincial road networks, jail facilities, demonstration farms and central motor pools. The national government constructs highways, airports, irrigation systems, ports, harbors, electric power grids, and provides, in cooperation with local and provincial governments, welfare, agro-industrial, community development, some education and health, and a wide variety of social assistance programs. Thus linkages among government organizations not only extend services, facilities, and budget resources throughout the spatial system, but also act as channels for obtaining political support and authority to undertake activities that are essential to integrated development. As Uphoff and Esman conclude from their review of 18 case studies of rural development in Asia, ". . . organization for rural development must be seen as a system of institutions performing various functions in the rural sector . . . and effectiveness of linkages between and among institutions, horizontally with other organizations at the same level and especially vertically between local organizations and structures at the center of government which set policy and allocate resources [is] essential to the success of rural development."<sup>35</sup>

As urban centers grow and new central places emerge, political and administrative linkages change and functions are transformed within each center. The number of social functions performed by government tends to increase as communities grow. A variety of health, education, security, welfare and other services that are provided by government in cities and metropolitan areas can be offered in rural areas and villages by extended families and friends. Whang found that as the intermediate city of Taegu in Korea grew and became more industrialized, city government took on more functions, expanded its budget 15-fold in 10 years, enacted a substantially larger number of regulations and laws and generally was transformed from a passive maintenance organization to an active governmental unit intervening more directly in social and economic affairs of the city in order to guide the direction and pace of development.

As it grew, Taegu established new and more extensive linkages with other jurisdictions and with the central government in Seoul. Cooperative and coordinative ties were established with national ministries " . . . because development programs require close coordination among different levels of government as well as between the city and neighboring counties and cities."<sup>36</sup> Studies of the growth of African middle cities indicate that as they grow in size and diversity, a complex set of political patterns change. In her study of the growth of Lagos, Nigeria, from a town of 100,000 people to a metropolis of over a million, Baker notes that during a 50-year period " . . . each stage is distinguished by transformation of some or all of the political variables . . ." affecting patterns of political behavior and formal government structure. Political participation increased, political interests became more diverse, a larger number of social and economic groups were included in decision-making, control shifted from national factions to resident groups, and politics generally became more localized.<sup>37</sup>

As political and administrative linkages are strengthened between urban and rural areas and among central places, the spatial system not only becomes more integrated, but in most developing countries each center attains increased political autonomy while becoming more interdependent with others in a national political and economic system. The degree of transformation promoted by increased linkage depends, however, on the ability of developing nations to build a system of development centers which can be integrated into a national space economy.

#### BUILDING DEVELOPMENT CENTERS--LOCATION OF URBAN SERVICES AND FACILITIES

The failure of developing countries to achieve growth with equity, it has been argued, can be attributed largely to their unarticulated spatial structures. Development is handicapped both by the lack of central places and by a spatial distribution of existing centers which are not

conducive to creating an integrated system of production and exchange. Commenting on the history of development in economically advanced nations, Johnson contends that ". . . in the developed countries the varied hierarchy of central places has not only made possible an almost complete commercialization of agriculture but facilitated a wide spatial diffusion of light manufacturing, processing, and service industries . . . [providing] employment of a differential variety, thereby utilizing the manual dexterity and skill of some workers as well as the care, precision, and judgment of others engaged in clerical, administrative and executive duties."<sup>38</sup> In contrast, developing nations generally have neither enough intermediate size central places nor the strong linkages among them to encourage commercialization of agriculture, savings, and investment in productive activities. Such a system of exchange is necessary to deliver rural goods and services to urban markets, and urban services and products to rural populations.

The spatial characteristics of developing nations are nowhere better illustrated than in the 17,000 square mile Kanpur region of India's Uttar Pradesh state, where 10 million people live in 11,239 villages, 24 urban centers and a single central city. Each town theoretically provides goods and services for 468 villages. But as Johnson notes ". . . the glaring weakness in this regional urban hierarchy is the utter inadequacy of the number of towns, since none of them could possibly service 468 villages, even if one were to assume a complete network of good roads. This illustrates . . . the flagrant inadequacy of the urban structure to provide markets, supplies or incentives for the millions of farmers in the Kanpur region."<sup>39</sup>

To build an articulated network of development centers, public services and facilities must be located in the village service centers, market towns, small cities, intermediate cities and regional centers that provide the preconditions for private investment in productive activities. Yet, equal rates of return on investment cannot be expected from every place in the spatial system. Government investment in services and



facilities should attempt to promote change based on existing comparative advantage and potential for growth at strategic locations, building wherever possible on momentum created by previous capital investment. Services and facilities should be located at those points which promise the greatest economic growth and the widest spread effects to surrounding areas, consonant with the goal of equitable income distribution.

Recent development strategies seek to steer a path between investment centralized in large metropolitan areas and its unplanned scattering among small towns, villages and rural hinterlands. Services, facilities, and productive activities each have an appropriate location in the spatial hierarchy. Investment aimed at integrating urban and rural functions requires careful analysis and allocation that balances concentration with dispersion. Large cities as well as rural market towns play crucial roles in the development process and their functions must be strengthened in order to create an articulated spatial system.

Experience shows that public investment in services and facilities should be concentrated at three primary locations in order to build their productive capacities. These locations are 1) village service centers, 2) market towns and small cities, and 3) intermediate cities and regional centers.

Cogent arguments can be made for increasing services and facilities investments at these points of the spatial system. First, they represent centers of maximum potential for aggregation and concentration of activities requiring relatively large population thresholds, and for the dispersion to rural hinterlands of public services needed to increase agricultural productivity and extend urban amenities to rural people. Each of these central places aggregates inputs from larger centers and disseminates them to smaller ones. At the same time each aggregates goods, services, information and other economic and social inputs and channels them to larger places. Second, village

service centers are the smallest places in developing nations at which urban services and facilities can be located for efficient and effective delivery to rural areas. Villages, hamlets and farmsteads do not provide large enough markets for most services and facilities. Third, market towns and small cities constitute the critical spatial points in a well-articulated spatial system for linking rural and urban functions. Market towns perform functions essential to the commercialization of agriculture and to the dispersion of urban services and facilities. Where they have been fully developed, they provide institutions for the collection, exchange and distribution of agricultural products, and contain storage, basic processing and transportation facilities to ship products to larger urban markets. They are the locations of basic financial and brokerage functions; of specialized craftsmen who require a threshold population larger than that of a single village, of non-agricultural work opportunities for surplus rural labor; and of basic nonformal and formal education and apprenticeship training. They facilitate social, cultural, and administrative interaction among groups and villages within their areas of influence and with larger cities and the metropolis. The performance of such basic functions and the provision of these services is essential to the promotion of development in economically lagging rural regions. Without a strong set of market towns, integrated urban-rural development simply will not occur.

Finally, metropolitan areas have made indisputable contributions to the development of Third World nations. As major investment, social, educational, administrative and cultural centers they are the "engines of development" in most countries. But to distribute more equitably the benefits of urban development, regional equivalents of the primate city--intermediate cities and regional centers--are needed throughout a country especially in remote rural regions, in what Johnson has called the "great unserved interstices."<sup>40</sup> Intermediate cities can function as regional industrial and commercial centers, "way stations" or absorption points for rural-to-urban migrants, and locations for

decentralized transportation, marketing, service and governance functions. The intermediate city can also play a critical "brokerage role" between rural areas and small cities within its area of influence and the metropolitan center. The intermediate city can be a regional focal point for mixing rural and urban functions and for transforming the less productive, traditional institutions, practices and activities.

### The Village Service Center

Existing investments attract a greater threshold population to some villages and complementary government investments in services and facilities should be located in those which already serve a comparatively large rural hinterland and with basic services and economic activities. These points, designated Village Service Centers, should be easily accessible from surrounding rural areas and located where they can extend critical services and technical, political, and administrative inputs to agricultural programs. Johnson contends that they should be within 5 to 20 miles of the population to be served<sup>41</sup>; Friedmann and Douglass would establish them as "agropolitan district towns" with a commuting radius of between 5 and 10 km, not more than one hour's travel time by bicycle from their furthest boundaries.<sup>42</sup>

Village Service Centers should 1) be small central places providing isolated farms, small hamlets and villages with basic services and facilities as well as household and agricultural goods; 2) contain facilities that provide services needed to stimulate non-agricultural small-scale industries and increase agricultural productivity; 3) provide basic social services facilities and amenities that raise the quality of life within surrounding rural areas; 4) contain cooperative organizations required to expand popular participation in development programs through a mixture of "bottom up" and "top down" planning; and 5) provide a small node of physical, social and economic activities that link rural areas and villages to market towns and small cities.

The following types of services and facilities should be located in Village Service Centers:

1. Facilities

- Small Scale Storage
- Community Center
- Cooperative Supply Outlet
- Maternity-Health Clinic
- Primary School/Vocational Education Facility
- Police Post
- Farm-Market Roads
- Irrigation Canals and Ditches
- Potable Water Pump, Wells and Storage Tanks
- Rural Electrification
- Primary Processing, Grading, Weighing and Packing Facility
- Agricultural Demonstration Plots
- Village-Hamlet Government Office
- Periodic Market Facility
- All-Weather Access Route
- Government Supply Dump
- Local Transportation Stop

2. Services

- Extension Service
- Welfare and Home Economy Service
- Government Credit
- Paramedical Health Service
- Maintenance of Roads and Physical Facilities
- Municipal Administrative Services
- Postal and Telegraph Service
- Local Bus and Truck Transportation Service

Such services and facilities can improve communications between rural areas and the village center, provide a daily market for surplus primary produce and an outlet for commonly required farm inputs, provide storage facilities for agricultural products, improve agricultural productivity and upgrade rural administrative capacity.

The Market Town - Small City

Market Towns are crucial for transforming economically lagging rural regions because, as Johnson contends, "the greater majority of under-developed countries and agricultural economies can only be transformed

and modernized if farming becomes increasingly commercialized." And if agriculture is to be commercialized every farm needs "access to markets where farm produce can be sold for cash without the danger of monopsonistic exploitation and where there are enough sellers of farm supplies to prevent monopoly . . . . What is essential, therefore, is a unified market town where appropriate facilities are congregated."<sup>43</sup> Historically, in most of the developed world, rural investments have clustered around markets. But if markets are to serve as growth points in developing nations they must perform a wide range of functions and offer a variety of services and commodities. They should be permanent and regulated, so that both farmers and traders can escape the abuses of traditional village monopolists.

Markets can be created by stimulating clusters of investment that are related to rural and agricultural needs. A diversified set of enterprises must be encouraged so that the benefits from association and proximity can provide economies of scale that allow them to thrive and to attract related investments. As the number of trading, manufacturing and service industries grow in one center there is a strong probability that both total demand for all services and products will grow and that the market's service-area will expand.

A critical problem in making plans for market town development operational is to identify entrepreneurs who can take advantage of the potential for growth and rapidly establish key enterprises. Several types of entrepreneurs have emerged where such centers have been established. In some countries local, private investors provided capital to establish new ventures, in others, such as Puerto Rico, foreign capital has been the main source of investment, whereas Israel established collective cooperative institutions and Yugoslavia allocated government investment funds to communes. Where permitted by government, some combination of public and private investment capital is required to set the development process in motion. Regardless of the method used, however, growth of market towns and small cities can be stimulated by the spatial coordination

of public capital projects and by the concentration of service and facilities in established or emerging market points.

The services and facilities that should be located in market towns and small cities include:

1. Facilities

- Permanent Market Structures
- District and Municipal Government Offices
- Development Bank Branch
- District Cooperative Office
- District Office of Marketing Board
- Small Hospital and Diversified Clinic
- Primary and Secondary Schools
- Vocational Training Schools
- All-Weather Roads, and Arterial Roads
- Paved Streets
- Electricity, Piped Water, and Sewerage Systems
- Transportation Depot
- Extension Center
- Experimental Farm
- Airstrip
- Rural Development Project Operations Office
- Warehousing and Food Processing Facility
- Police Station
- Post, Telegraph and Telephone Office
- Cooperative Supply Outlet and Administration Office
- Equipment Repair and Maintenance Facility
- Government Supply Dump/Warehouse
- Fire Station

2. Services

- Agricultural Marketing Service
- Agricultural Extension and Information Service
- Welfare and Home Economy Service
- Public Transportation Service
- Public Safety and Security Services
- Public Health Service
- Credit and Government Lending Service
- Full-Time Municipal Administrative Service
- District Administrative Office
- Postal and Telegraph Service
- Full-Time Maintenance of Roads and Physical Facilities

Intervention at the market town-small city level should aim to expand and facilitate marketing and to increase agricultural productivity in

the hinterlands. Physical facilities must be constructed for a permanent marketplace, supported by storage, grading and processing facilities, as well as the necessary financial, commercial and business services. The market center should be made a district transportation hub to link it with village service centers and to intermediate cities and metropolitan areas.

#### Intermediate City - Regional Center

Although remarkably little is known about intermediate cities in developing nations, middle size cities perform critical roles in the transformation and development of regional economies and spatial structures. Intermediate cities are socially and economically heterogeneous, mixing traditional and modern behavior, institutions, and practices; they are spatial linkage points for modern and bazaar economies. Usually situated at the hub of regional transportation routes, intermediate cities are usually way-stations or absorption points for rural to urban migrants. Although they lack social homogeneity, the middle size cities have "a degree of 'openness' as well as mechanisms for the assimilation of outsiders into the economic structure of the city,"<sup>42</sup> and their very heterogeneity serves to integrate a variety of social groups, clans, and tribes as well as village and town services with metropolitan activities and national functions. Indeed, many intermediate cities manifest both rural and urban physical characteristics. Taegu, the Korean middle city of more than a million people, with a diversity of industry and a growing economy, can still be described by visitors in terms of its rural atmosphere. "A city big in population only, it lacks most of the modern facilities that Seoul and Pusan enjoy," writes one observer. "Its small downtown shopping area is cluttered with small stores. There are no large tourist hotels, no big office buildings, and beyond the core areas of the city, Taegu still looks rural, and this strong rural atmosphere pervades the whole city."<sup>45</sup>

To build middle size cities and regional centers, facilities and services must capitalize on the openness and heterogeneity of these places, creating a mixed urban-rural economy that can promote higher levels of rural productivity, coordinate national, regional and local administrative functions, diversify commercial and industrial activities and devolve many of the functions concentrated in the primate city. Intermediate cities can be built into raw material and agricultural commodity processing and distribution centers, urban industrial areas that perform a wide range of financial, service, commercial, educational and administrative functions. This may be facilitated by developing within them industrial estates, specialized trade schools, energy and power stations, communications services, warehousing and storage facilities, and a regional appropriate technology research center. Other public services and facilities required to build the productive capacity of intermediate cities include:

1. Facilities

- Regional Permanent and Complementary Markets
- National Government Regional Offices
- Provincial Government Offices
- Municipal Government Offices
- National Financial Institutions
- Full Service Hospitals
- Regional University
- Primary and Secondary Schools
- Specialized Trade Schools
- Arterial Highway
- Airfield
- Major Transportation Junction
- Paved Streets
- Electricity, Piped Water and Sewerage Systems
- Electric Generation Station and Regional Grid
- Industrial Estate
- Regional Development Headquarters Office
- Regional Post, Telegraph, and Telephone Operations Office
- Fire and Public Safety Facility
- Warehousing and Storage Facility
- Industrial Raw Material Processing and Food Manufacture
- Low Cost, Public Housing
- Government Supply Distribution Center
- Regional Agricultural Experiment Station
- Major Repair and Maintenance Facilities
- Regional Appropriate Technology Research Center
- Public Recreational Facilities



## 2. Services

- Public City and Intercity Transportation Service
- Public Safety and Security Service
- Public Health Service
- Professional City Administrative Service
- Provincial Administrative Service
- Urban Social Welfare Services
- Public Libraries
- National Government Regional Services
- Postal and Telegraph Service
- Professional Maintenance of Roads and Physical Facilities

With these services and facilities, intermediate cities can become vital spatial nodes for integrating smaller with larger central places and meshing the major linkages that build an articulated spatial system within a national economy.

### TRANSFORMATIONAL DEVELOPMENT: AN APPROACH TO SPATIAL INTEGRATION STRATEGY

To make integrated urban-rural development strategy work will require the concerted efforts of both developing nations and international assistance agencies and, within developing nations, a wide variety of public and private organizations, to build the comparative advantages and entrepreneurial capacity of economically lagging and spatially unarticulated regions. Integrated urban-rural development, in most countries, requires regional planning, since central governments cannot adequately plan, supervise and coordinate development activities from the national capital, and local governments are often too weak to provide the essential resources for area-wide development.

But unlike development strategies that attempt to substitute modern organizations, technologies, methods of production, attitudes and social relationships for "traditional" institutions and practices, transformational development seeks to increase incrementally the productivity of indigenous institutions and practices, reinforcing and building on those appropriate to local conditions and needs and adaptive to changing

circumstances, gradually displacing those that are not. The concept of development as transformation involves eight basic principles that include:

1. Building on existing culturally embedded resources, institutions and practices;
2. Involving local people, who will be affected by transformation and change, in the processes of development planning and implementation;
3. Adapting modern technologies, services and facilities to local conditions;
4. Promoting specialization in production and exchange activities based on existing spatial comparative advantages;
5. Using appropriate, low-cost, culturally acceptable methods of change to generate "demonstration effects" that lead to widespread adoption of those methods that prove successful;
6. Planning for displacement of unproductive and unadaptable traditional institutions and practices as change occurs;
7. Establishing, through planning based on "strategic intervention," the preconditions for transformation and change in social, technical, political, economic and administrative structures and processes and in elements of the spatial structure; and
8. Creating a planning process that is flexible, incremental, adaptive and that provides for experimentation and adjustment as transformation takes place.

#### Building on Existing Resources

Development planning rarely begins with a clean slate; in every developing nation existing problems and circumstances, which often evolved over centuries, establish the environment for change. Although it is almost a cliché to argue that development planning should be

based on a thorough understanding of existing conditions and emerging needs, this basic principle is often lost in the urgency to activate development plans and policies.

One of the recurrent lessons of development experience, however, is that the most pervasive changes can be attained by transforming existing resources. Indigenous social and economic systems survive because they perform useful or necessary functions. They are usually adaptive mechanisms suited to cultural peculiarities, and which satisfy the needs of those who maintain them. Understanding their operations is crucial to designing plans and programs for promoting change. The use of existing resources and culturally embedded traditions, moreover, can be more effective and less costly than attempting wholesale substitution of "modern" but alien institutions and practices.

The transformation of shifting cultivation as an agricultural system provides an appropriate illustration. Those schooled in the Western tradition of resource use have been, in the past, almost unanimous in their a priori condemnation of traditional agricultural technologies--especially of shifting cultivation in tropical highlands--as primitive, wasteful, destructive and unproductive. But under normal conditions traditional agricultural systems are not axiomatically ruinous or maladaptive. They exist and continue to survive for good reason. But to be made more productive, shifting cultivation must be transformed into a culturally acceptable system that both satisfies family nutritional requirements and generates marketable surpluses to meet the growing food needs of urban and rural markets. Experiments with shifting cultivators indicate that this form of agricultural technology can indeed be transformed to more productive uses; in Burma the integration of food production with forestry, the gradual introduction of perennial cash crops such as cocoa, oil palm or rubber combined with a corresponding de-emphasis on annual crops in shifting fields, and the introduction of livestock and pasture animals into shifting cultivation areas, all helped transform low-productivity subsistence

agriculture into incrementally more productive farming.<sup>46</sup> In Latin America the introduction of better varietal selections and more effective cultivation techniques to areas where perennial crops and pasture grasses were traditionally cultivated, produced similar results.<sup>47</sup> "All [of these alternatives] are compatible with existing systems of shifting cultivation," Greenland argues, "and introduction of any one or more of these into the system should lead to immediate although not always dramatic improvement in production."<sup>48</sup>

But in the case of shifting cultivation, there are even more convincing arguments for a transformational approach to development. Experience with the Green Revolution demonstrates that its impact on small farmers living at or near subsistence levels is relatively small; shifting cultivators cannot hope to attain access to the modern technology required by high-yielding seed varieties, nor is it adapted to their needs. Indeed, as Greenland argues, ". . . for the great majority of farmers in the less developed parts of the tropics and subtropics, who farm poor soil unsuited to intensive mechanized agriculture, transfer of technology is not possible. For their development they require not the transfer of technology, but the devising of new technology." But even design of new technologies, ostensibly suited to the problems of subsistence cultivators, must be preceded by the attempt ". . . to analyze carefully those factors that make [shifting cultivation] stable and those factors that often make the shifting cultivator adhere to it when offered alternatives."<sup>49</sup>

Scattered evidence from rural development experiments supports the contention that change is more likely to be adapted when it is based on traditional institutions and practices. Fishing village projects in Ghana and vegetable production schemes in Gambia, mobilizing traditional communal labor and incorporating the customary roles of women in agricultural decision-making, gradually increased productivity and income.<sup>50</sup> Agricultural projects designed to use traditional power structures in Bolivia succeeded by adapting ". . . a variant on the

traditional sharecropping method in which the patron puts up all cash costs and then splits the crop with the farmer."<sup>51</sup> Social and commercial services can similarly be upgraded in areas where alien institutions and facilities would likely fail. Capital accumulation was promoted among Tiv tribes in Nigeria, for instance, through the use of "bams," farmers' associations based on interfamily borrowing of food or money in time of need. Because the Tiv resisted both government credit schemes and commercial lending, it was necessary, in the 1950s, for tribal chiefs to form savings and lending groups based on traditional practices. Traditionally, women accumulated yams, as savings to be used in times of emergency, when they loaned them to their extended families and then to other families. When it became necessary to accumulate capital to buy farm equipment and fertilizers to improve agricultural productivity, Tiv leaders found that traditional systems would not generate sufficient savings and that they could only introduce more modern savings and lending functions by forming them around the traditional yam borrowing and lending groups, transforming them over time into more diversified farmers' associations.

#### Local Participation

Building on existing resources, institutions and practices requires involving local people, who will be affected by transformation and change in development planning and implementation. The information, experience and insights of local people are essential in identifying the scope and dimensions of local needs, the most effective channels of change, and the types of change that they will support. Only by incorporating local people in the process of planning and implementation can decisions be tailored to specific needs and can latent talents and skills be developed. As Johnson argues " . . . many poor countries . . . are poor because they have failed to release the full creative potentials of their great masses."<sup>52</sup> Similarly, Friedmann and Douglass contend that integrated spatial planning aimed at adapting urban elements to rural settings requires " . . . a system of governance and planning that

is ecologically specific and gives substantial control over development priorities and program implementation to district populations . . . to enable them to take advantage of ecological opportunities where they exist . . . to harness the richly personal, embodied learning of local inhabitants to the . . . knowledge of specialists, and . . . to encourage a growing sense of identification of local people with the enlarged communal space of the metropolis."<sup>53</sup>

#### Strengthening Comparative Advantages

Transformational development also implies building the productive capacities of organizations and spatial locations on the basis of their comparative advantages--those functions they can perform most effectively and efficiently compared with other organizations and places. This requires assessing the advantages and deficiencies of major elements of the spatial hierarchy to determine their potential roles, the extent and nature of their linkages to other elements of the spatial system and their complementarities. Since the "middle levels" of the spatial hierarchy are missing or poorly articulated in most developing countries, existing spatial elements must be structurally transformed.

A fundamental obstacle to investment in many rural areas is the lack of information on local conditions which makes evaluation of location decisions difficult, increasing uncertainty and risk. The ability of public and private decision-makers to act to meet the needs of a region in its existing state of development, moreover, depends on their ability to perceive correctly current problems and opportunities. Most developing regions lack organizations that collect, aggregate and analyze data on regional social, economic, and technological trends. In some cases a regional development agency can compile information already collected by other agencies and firms as the basis for analysis, or generate new data. A basic inventory would include information on the level of regional income, industry, and occupation mix, wage rates, local earning rates, and contribution of regional factors of production to regional

income. Sources of regional income, location of income producing activities, and analysis of resource inflows and outflows are required to evaluate entrepreneurial opportunities and lagging sectors. Data concerning the volume and productivity of regional economic activity, levels of capital investment in social overhead and directly productive activities, rates of return on major capital investments and productivity of regional economic activities, would also be helpful.

Successful planning for integrated urban-rural development must be tailored to the needs and constraints of individual communities. A fundamental weakness of centralized national planning is its insensitivity to uniquely local problems and opportunities. Regions in developing nations often differ drastically in their resource bases, comparative advantages, levels of development and potential for future growth, as do communities within regions. Not all regions or communities suffer the same deficiencies or require the same services and facilities to promote productive investment. The requirements for building intermediate cities differ from those for market towns and village service centers. Decisions concerning allocation of investment and location of urban services and facilities should be based on a careful analysis of rural hinterlands within the region and of existing development centers. (See Table 16).

1. Analysis of Rural Resources and Activities: Analysis of rural areas must take into consideration physical characteristics, land and resource use patterns, agricultural cropping patterns and the volume, diversity and productivity of agricultural activities. Population distribution and human settlement patterns can indicate the most efficient service delivery linkages and locations for major public facilities and programs. Existing services and facilities, and the location of non-agricultural commercial and manufacturing activities, must be inventoried and analyzed. Patterns and characteristics of subsistence agricultural systems are critical for determining where extension, technical inputs and informal education programs should be directed. Appropriate

Table 16  
**METHODOLOGIES AND INFORMATION APPROPRIATE FOR  
 INTEGRATED SPATIAL DEVELOPMENT PLANNING**

TYPES OF ANALYSIS	ELEMENTS OF ANALYSIS	APPROPRIATE METHODOLOGY	NECESSARY DATA
<p>Analysis of Rural Resources and Activities</p>	<ol style="list-style-type: none"> <li>1. Physical Characteristics, Land and Resource Use</li> <li>2. Cropping Patterns</li> <li>3. Volume and Diversity of Agricultural Productivity</li> <li>4. Population Distribution and Human Settlement Patterns</li> <li>5. Services and Facilities Distribution</li> <li>6. Nonagricultural Commercial and Manufacturing Activities</li> <li>7. Subsistence Systems Characteristics and Patterns</li> </ol>	<ul style="list-style-type: none"> <li>-Aerial Photography and Mapping Analysis</li> <li>-Special Mapping</li> <li>-Descriptive Statistics</li> <li>-Location Analysis</li> <li>-Descriptive Mapping</li> </ul>	<ul style="list-style-type: none"> <li>-Land Tenure Information</li> <li>-Soil and Water Resources</li> <li>-Mineral, Forestry, and Fisheries Resources</li> <li>-Location and Types of Rural Roads</li> <li>-Livestock Resources</li> <li>-Types, Location and Uses of Water Resources</li> <li>-Population Census</li> <li>-Types and Location of Agro-Industries</li> <li>-Climate and Weather Conditions</li> <li>-Size and Distribution of Farms and Landholdings</li> <li>-Crop Yields</li> <li>-Value of Marketed Crops</li> <li>-Types and Location of Agricultural Processing Activities</li> <li>-Types and Location of Storage Facilities</li> <li>-Types and Locations of Marketing Facilities</li> <li>-Size and Distribution of Farm Income</li> </ul>
<p>Analysis of Development Centers</p>	<ol style="list-style-type: none"> <li>1. Location of Market Centers, Towns, Small and Middle Cities</li> <li>2. Size, Composition, Density, and Distribution of Population</li> <li>3. Location, Concentration and Dispersion of Major Social and Economic Activities</li> <li>4. Changes in Size and Concentration of Activities over Time</li> <li>5. Labor Force Characteristics</li> <li>6. Location and Distribution of Public Services and Facilities</li> </ol>	<ul style="list-style-type: none"> <li>-Descriptive Statistics</li> <li>-Scalogram Analysis</li> <li>-Guttman Scale Analysis</li> <li>-Coefficients of Concentration</li> <li>-Coefficients of Deviation</li> <li>-Location Quotients</li> <li>-Coefficients of Localization</li> <li>-Localization Curves and Ratios</li> <li>-Indices of Segregation</li> <li>-Indices of Dissimilarity</li> <li>-Shift-Share Analysis</li> <li>-Gap Analysis</li> <li>-Special and Descriptive Mapping</li> <li>-Factor Analysis</li> </ul>	<ul style="list-style-type: none"> <li>-Population Size and Density</li> <li>-Population Characteristics</li> <li>-Land Areas and Land Uses</li> <li>-Distance to Major Metropolitan Centers</li> <li>-Type, Size, Location of Public Facilities and Services</li> <li>-Types and Location of Utilities</li> <li>-Characteristics of Transport Services and Facilities</li> <li>-Size, Location and Characteristics of Commercial Establishments</li> <li>-Health Facilities and Services Characteristics</li> <li>-Recreational Facilities</li> <li>-Governmental Services and Facilities Characteristics</li> <li>-Type and Location of Social Organizations</li> <li>-Employment Sources</li> <li>-Characteristics of Educational Institutions</li> <li>-Professional Services</li> <li>-Manufacturing and Processing Industry Characteristics</li> <li>-Size, Location and Volume of Business for Personal Services Establishments</li> <li>-Educational Levels of the Population</li> </ul>



Table 16 (continued)

Analysis of Regional Spatial Linkages

<ol style="list-style-type: none"> <li>1. Physical Linkages:               <ol style="list-style-type: none"> <li>a. Road Networks</li> <li>b. River and Water Transport Channels</li> <li>c. Rail Networks</li> <li>d. Ecological Inter-dependencies</li> </ol> </li> <li>2. Economic Linkages:               <ol style="list-style-type: none"> <li>a. Market Patterns</li> <li>b. Raw Materials and Intermediate Goods Flows</li> <li>c. Capital Flows</li> <li>d. Production Linkages-- Backward, Forward, and Lateral</li> <li>e. Consumption and Shopping Patterns</li> <li>f. Income Flows</li> <li>g. Sectoral and Inter-Regional Commodity Flows</li> <li>h. "Cross Linkages"</li> </ol> </li> <li>3. Population Movement Linkages:               <ol style="list-style-type: none"> <li>a. Migration--Temporary and Permanent</li> <li>b. Journey to Work</li> </ol> </li> <li>4. Technological Linkages:               <ol style="list-style-type: none"> <li>a. Technology Interdependencies</li> <li>b. Irrigation Systems</li> <li>c. Telecommunications</li> </ol> </li> <li>5. Social Interaction Linkages:               <ol style="list-style-type: none"> <li>a. Visiting Patterns</li> <li>b. Kinship Patterns</li> <li>c. Rites, Rituals and Religious Activity</li> <li>d. Social Group Interaction</li> </ol> </li> <li>6. Service Delivery Linkages:               <ol style="list-style-type: none"> <li>a. Energy Flows and Networks</li> <li>b. Credit and Financial Institutions</li> <li>c. Education, Training, Extension Links</li> <li>d. Health Service Delivery Systems</li> <li>e. Professional, Technical Commercial Service Patterns</li> <li>f. Transport Service Systems</li> </ol> </li> <li>7. Political, Administrative, and Organizational Linkages:               <ol style="list-style-type: none"> <li>a. Structural Relationships</li> <li>b. Government Budget Flows</li> <li>c. Organizational Inter-dependencies</li> <li>d. Authority-Approval-Supervision Patterns</li> <li>e. Inter-Jurisdictional Transaction Patterns</li> <li>f. Informal Political Decision Chains</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>-Trade Area Analysis</li> <li>-Input-Output Analysis</li> <li>-Environmental Impact Analysis</li> <li>-Regional Balance of Payments Analysis</li> <li>-Correlation</li> <li>-Factor Analysis</li> <li>-Linear Programming</li> <li>-Network Analysis</li> <li>-Activity Analysis</li> <li>-Differential Migration Analysis</li> <li>-Inflow-Outflow Analysis</li> <li>-Origin-Destination Studies</li> <li>-Gravity and Potential Models</li> <li>-Survey Research</li> <li>-Key Informant Analysis</li> <li>-Case Studies</li> <li>-Descriptive and Special Mapping</li> <li>-Transaction Analysis</li> <li>-Descriptive Statistics</li> <li>-Simple and Multiple Regression</li> </ul>	<ul style="list-style-type: none"> <li>-Number, Size, Location and Quality of Road and Rail Lines</li> <li>-Soil Conditions, Water and Air Pollution Levels</li> <li>-Shipping Times to Major Central Places</li> <li>-Transport Service Costs</li> <li>-Types, Sources and Locations of Raw Material Supplies</li> <li>-Size, Type and Location of Regional Industries</li> <li>-Retail Sales Trends</li> <li>-Residential Location of Employed Workers</li> <li>-Employment-Commuting Distances</li> <li>-Value Added in Manufacturing by Location and Industry</li> <li>-Consumer Characteristics</li> <li>-Size, Types and Location of Regional Shopping Facilities</li> <li>-Regional Income Size and Distribution</li> <li>-Types, Sizes and Locations of Communications Media</li> <li>-Time Deposits and other Savings</li> <li>-Volume and Distribution of Investment, by Location and Activity</li> <li>-Changes in Natality, Morbidity and Mortality Rates</li> <li>-Family and Kinship Patterns</li> <li>-Work Structure and Organization Data</li> <li>-Types and Locations of Religious Groups</li> <li>-Types and Location of Social and Professional Groups</li> <li>-Energy Use and Distribution</li> <li>-Volume and Distribution of Credit and Loans</li> <li>-Structure of Governments Within Region</li> <li>-Types, Location and Distribution of Formal Government Responsibilities</li> <li>-Types and Distribution of Government Offices and Facilities</li> <li>-Intergovernmental Financial Transfers</li> <li>-Types, Sources and Distribution of Government Revenues</li> <li>-Allocation of National Provincial and Local Budget Resources</li> <li>-Licensing and Regulatory Powers</li> <li>-Types, Location and Responsibilities of Autonomous Authorities within the Region</li> <li>-Types, Location and Functions of Quasi-Public Organizations</li> </ul>
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methodologies for analyzing rural resources and activities include descriptive statistics, aerial photography, descriptive and special mapping, and location analysis.

2. Analysis of Development Centers: Equally important for integrated urban-rural development planning is an analysis of existing components and central places. The location of villages, market towns, small and middle size cities and intermediate centers; the size, composition, density and distribution of their populations, their labor force characteristics, and the location and distribution of public services and facilities, must all be considered. The location, concentration and dispersion of major social and economic activities must be an integral part of central place studies. A wide variety of methodologies are available, ranging from descriptive statistics through indicators of concentration and dispersion--coefficients of concentration, localization and deviation, location quotients and localization curves, indices of segregation and dissimilarity--as well as scalogram and guttman scale analysis, and gap, shift-share, and factor analysis.<sup>54</sup> From these studies it should be possible to evaluate the comparative advantages of central places and rural areas in order to make decisions concerning the location of public facilities and services and private production investments.

3. Analysis of Linkages: Concentration of investment is crucial to building economies of scale and creating the types of central places required to integrate regional spatial systems. Concentration of services and facilities in central places, as noted earlier, can generate a number of economic advantages for both individual private entrepreneurs and for the regional economy as a whole: economies of proximity, agglomeration, specialization and division of labor; opportunities to exploit forward and backward production linkages; reductions in transfer and shipping costs; and widening rural market areas. In addition, larger scale encourages economic diversification to cushion the regional economy against decline in specialized activities,

allows development of more diversified organizations and attracts skilled labor. Central places have distinct advantages in their ability to attract capital and entrepreneurial talent. Analysis of existing regional spatial linkages can identify those with the greatest potential for integrating central places and transforming underproductive institutions and practices. Three types of methodologies are available to analyze spatial linkages: 1) descriptive methods include special and descriptive mapping, descriptive statistics, key informant analysis and case studies; 2) regional economic analysis techniques include trade area, input-output, balance of payments, network, migration, origin and destination, gravity and potential model studies; and 3) multivariate statistical techniques including correlation, regression, and factor analysis.

#### Adopting Low-Cost Methods Appropriate to Local Conditions

Much of the transformation needed to increase the productivity of central places in developing nations can be achieved through methods that are low in cost, adaptable to local conditions, and that generate "demonstration effects" that encourage communities to experiment with successful technologies, services and facilities. The creation of the town of Djoliba, formerly a village located some 45 km from Bamako, the primate city of Mali, is a good example of one attempt both to build a market center as a "countermagnet to the capital," and to use low-cost, locally appropriate techniques; and the experience with that project can be of use to other countries.<sup>55</sup> The joint effort of the government of Mali and international agencies used a form of transformational development to strengthen an incipient growth center. Several important characteristics pointed to Djoliba's potential as a market town: it lay at the center of a productive agricultural area and was the natural market for a dozen surrounding villages; the community owned four thousand hectares of land which produced a modest surplus and satisfied subsistence needs; a small school and a dispensary served the population within walking and cycling distance; and

small-scale industry--net menders, weavers and blacksmiths--already existed. Of cultural importance was the village's prestige as the homesite of the ancient Kieta Dynasty; and probably the most important factor, the village's 1600 residents were "extremely enthusiastic about participation in the proposed project."

The decision to tailor project design specifically to Djoliba's social and cultural conditions played a large part in successfully establishing it as a regional market center. At an early stage it was decided that the pattern of life in the community should be preserved as much as possible, making provision for gradual change and improvement. To the mosque, market grove, school and meeting place were added a youth center, medical facility and permanent market, and an enlarged school. Neighborhood housing units were built through self-help programs and planning was based on traditional physical design. Within each neighborhood the traditional compound and space for kitchen gardens and cottage industries were retained. Although austere, residents quickly realized that such housing was superior to anything that they could obtain as migrants in the capital city, and in Djoliba each family would own its dwelling and land.

The educational program was crucial to the concept of developing a market town and growth center, for technical skills that could promote and accommodate Djoliba's growth were essential. A small industries training center was established to provide instruction in the practical skills needed in a growing agricultural town and to build on traditional crafts, carpentry, mechanics and electricity. The primary school was expanded, but as soon as rural families learned of the better educational opportunities in Djoliba the school was swamped with out-of-town children and it had to be expanded again.

Agro-industrial and processing industries were also established. In consultation with local farmers a new high-protein species of bean was introduced and traditional crops upgraded and chicken-raising formed

the basis for a new meat and egg industry. Local farmers started a wild nut and groundnut oil pressing industry--an important source of alternative employment for farm laborers--and two mills to process millet and maize were constructed. Wastes from oil crushing were combined with milling by-products to produce concentrated livestock feed. Transport links with both the hinterland and the capital city were improved and surplus agricultural products could then be moved speedily to markets in Bamako. Local and travelling vendors showed enough interest in Djoliba's market to construct permanent vending stalls and other facilities, an indication of local people's confidence in the market center's future commercial role.

The type of actions taken in Djoliba could be replicated in nearly any developing nation. But to do so requires recognition of some of the critical factors that contributed to the project's success: 1) community design and agro-industry developments were culture and site-specific, suited to local needs and conditions, 2) villagers played a large role in planning, 3) investments were additive and sequential and did not overburden existing facilities, 4) traditional skills were used as the base for expanding industry and training programs, 5) education was adapted to development needs, 6) welfare was upgraded beyond standards available to migrants in the primate city, and 7) landownership and housing were guaranteed to occupants.

#### Planning for Displacement and Change

As spatial structure, traditional institutions and indigenous practices undergo change, the least productive and adaptive are eventually displaced, their roles and functions assumed by more appropriate successors. Examples of transformational displacement in developing nations are numerous and commonplace--day laborers and bullock ploughmen are replaced by mechanized tractors and tillers, ferrymen operating small barges at river crossings are rendered jobless by the construction of a bridge, charcoal makers are ousted from their livelihood by rural electrification, periodic

markets disappear as new transport linkages between rural areas and larger towns increase access to more diversified daily markets, the economic base of whole cities deteriorates as new industrial technologies or competitive markets for their goods or services emerge. Displacement is an inevitable concomitant of transformation and development. Although planning must attempt to mitigate the adverse impacts of displacement, the lessons of culture history document the frustrations of attempting to preserve artificially unadaptive institutions. In the historical sweep of change whole cultures have emerged, been absorbed and disappeared, whereas others have adapted and survived relatively intact. The fundamental role of development planning is to facilitate and promote processes of productive change, while attempting to anticipate and mitigate the adversities and traumas of transformation.

#### Strategic Intervention

Yet governments can never be omnipotent in planning for development; rarely, if ever, is it possible to anticipate accurately or to control comprehensively the consequences of change. Indeed, there are only limited actions that governments can take to promote economic growth, and these are confined as Friedmann has pointed out, to: 1) discovering and capturing new markets for old products; 2) introducing new ways to produce old products; 3) producing new or improved products and services; 4) establishing new types of organizations for production; 5) building local physical infrastructure for production activities; 6) creating local savings and investment opportunities; 7) developing human resources, labor supplies and skills; 8) developing local natural resources and improving locational advantage; and 9) developing institutions and services to provide more or better information and knowledge useful in planning and production.<sup>56</sup>

Few governments in developing nations, however, have the resources to undertake even these activities, and must depend on the combined investment of public and private organizations and international

corporations. At best, deliberate government intervention can usually only establish the essential preconditions for change and attempt to manipulate strategic factors that obstruct development or set in motion chains of activities that are likely to accelerate transformation. Among the most important preconditions that can be established by government agencies are: providing social overhead capital and physical infrastructure required for productive investment by public and private organizations, ensuring that at least minimum levels of health, education and other social services are available to a majority of the population, removing obstacles to increased productivity and exchange in economically lagging regions and among disadvantaged population groups, and ensuring through legal means equitable and widespread access to resources, factors of production and opportunities for individual advancement. Beyond providing these preconditions governments can plan their own resource allocations and investment to encourage the growth of strategic points in the spatial hierarchy--village service centers, market towns, intermediate cities and metropolitan areas--and to strengthen the linkages among them.

National and regional development agencies can assist provincial, district and local governments and private firms to locate services and facilities to build central places and strengthen linkages among them, by:

1. Helping to identify specific sites for establishing new plants or expanding existing enterprises to take maximum advantage of economies of agglomeration, scale, and proximity to supplementary and complementary economic and social activities;
2. Analyzing social overhead expenditures, public services and facilities needed to sustain proposed development projects and new private ventures and to adapt technological innovations to regional and local conditions;
3. Identifying and analyzing backward, forward and lateral linkages of existing economic activities and delineating opportunities

for new investment in the production of goods currently imported to the region;

4. Monitoring the investment activities of local, provincial and national government agencies that construct infrastructure and develop utility, transportation and service facilities in the region; analyzing the impact of that infrastructure on regional and local comparative advantages and on production, marketing and transport costs for important sectors of the regional economy; and

5. Identifying major public and private capital investments that would yield high, immediate multiplier effects for the region's major economic activities and central places, and recommending their inclusion in national and regional investment plans.

Social, economic and technological changes have been the most apparent factors promoting regional development. Changes in transportation, technological, service delivery and economic linkages, it was noted earlier, vitally affect the locational advantages of villages, market centers, small cities and intermediate centers. Changes in agricultural, mining and manufacturing production techniques have been significant in creating comparative advantages in some communities and destroying those of others.

The ability of regional decision-makers to perceive opportunities and adopt technological innovation is a critical factor contributing to regional development. National and regional planning agencies can play an important role in helping to establish an environment for innovation, transformation and entrepreneurship by acting as an intermediary and channel of communication between organizations within rural regions and those outside--national ministries, private firms, financial institutions, universities, research groups and individual entrepreneurs--with resources that could be invested in regional activities. As an intermediary and promoter of innovation and entrepreneurship, the regional development agency can:



1. Transfer information concerning innovations in production technology, marketing, transportation, organization and processing techniques to public and private organizations within the region;

2. Identify public and private sources of capital for new ventures --by monitoring new national development programs, changes in interest rates, new sources of government grants and loans to industry, and by active participation in the creation of cooperatives, the development agency can assist potential entrepreneurs to find new sources of capital;

3. Promote regional agricultural goods and manufactured products in markets outside the region--by assisting local entrepreneurs to pool resources for promotion, advertising, and marketing in intermediate cities and metropolitan areas, the development agency can help widen the market for locally produced products and commodities; and

4. Development agencies can also help organize for improving the skills of regional entrepreneurs and public administrators by contracting for and conducting training, by conducting workshops and seminars through which successful entrepreneurs disseminate their experience to others, and by mobilizing teams of experts and practitioners within the region to evaluate potential projects and existing business and government operations.

#### Flexible and Adaptable Planning Procedures

Because the very purpose of development planning is to trigger a set of interrelated actions, which through multiplier and "cascade" effects, generate productive change, the planning process itself must be change-oriented--flexible, incremental and adaptive--fostering experimentation and adjusting policies and programs to the consequences and outcomes of transformation.

THE ROLE OF INTERNATIONAL ASSISTANCE IN  
INTEGRATED URBAN-RURAL DEVELOPMENT

Developing nations will need the financial and technical assistance of bilateral and multilateral aid agencies to implement integrated spatial strategies. Much of what needs to be done in developing countries can be accomplished through existing assistance programs; but their focus and direction must be reoriented. A spatial framework is needed for designing, implementing and evaluating development projects, for coordinating assistance programs and for formulating future development policy. All of the bilateral assistance agencies and development banks are now providing technical, financial and some of the administrative inputs for increasing agricultural productivity and alleviating the worst aspects of urban and rural poverty. What is lacking is a spatial strategy, the recognition that the key to creating self-sustaining national economies lies in building articulated spatial systems in developing nations.

That all aspects of spatial structure--urban centers of every size and rural hinterlands surrounding them--are crucial for creating integrated systems of production and exchange, seems to be barely recognized in the operations of development assistance agencies. Major aid organizations--the World Bank, the U.S. Agency for International Development, the United Nations Development System, and DAC member countries--all have programs that seek to overcome physical, social and economic problems in Third World cities; all are committed to reducing rural poverty. Yet none has an operational strategy for integrating urban and rural development. None concentrates its assistance on building productive capacity in central places and on strengthening spatial linkages. None overtly attempts, through integration of urban services and facilities in rural development projects, to promote the kind of articulated spatial system required to propel Third World nations from underdevelopment and poverty. Without such a spatial framework programs of international assistance can, at best, only

continue to respond to periodic crises and attempt to relieve major bottlenecks, with no assurance that fragmented and dispersed projects will transform developing societies into productive economic and spatial systems.

Reorientation of international assistance programs should consist of a number of specific actions:

First, aid agencies, in addition to formulating an overall spatial development framework for the allocation of their own resources, should establish within country or field missions, coordinating committees to work closely with national ministries in reviewing the spatial implications of potential projects and investments. Each project should be examined in detail to determine its contribution to building development centers and strengthening spatial linkages. Spatial implications should rank equally with financial and technical feasibility criteria in appraising and approving proposed projects. Location factors must be given increased importance in light of their multiplier and spillover effects.

Second, assistance organizations, again in cooperation with national governments, should undertake a detailed analysis of spatial conditions in each recipient country, assessing spatial deficiencies and needs as the basis for identifying projects and programs that will increase spatial articulation and promote the growth of intermediate elements in the spatial hierarchy.

Once baseline data have been compiled, moreover, regions which are shown to be least productive, the most poverty stricken, and the least developed spatially should be assigned priority for reallocation of investment in urban services and facilities that will build the productive capacity and increase the growth potential of village service centers and market towns.

Fourth, a small number of intensive pilot projects should be sponsored

by assistance agencies in selected developing countries to test alternative strategies for locating urban services and facilities in support of rural development. Regions with the greatest potential of benefitting from integrated urban-rural development should be chosen first, and the pilot projects evaluated in terms of their potential for wider replication and use in less advantageous regions.

Fifth, additional research is urgently needed on various components of spatial systems in developing countries. Although much is known about some types of marketing systems in developing nations, relatively little research has been done on the nature, characteristics and potentials of market towns. In-depth studies and comparative analyses of intermediate cities in the Third World are virtually non-existent. But the few that have been done indicate the crucial role they play in social and economic transformation and in the modernization of rural areas. Nor is much known about the dynamics of spatial linkage and its effects in promoting physical, social, economic and technological change. Research in these areas should proceed simultaneously with pilot projects, and the two should be mutually reinforcing.

Finally, prior to establishing pilot projects and concomitant with replicating experiments in urban-rural integration, programs should be designed by indigenous planners, scholars and administrators and technical assistance experts to develop curricula for and to train those involved in development decision-making and investment policy formulation in the spatial implications of service and facility location. Both long and short term educational and training programs are needed to develop the skilled manpower required to analyze spatial systems and design and implement integrated spatial development plans.

Ultimately, the task of developing countries and international assistance agencies, as Johnson contends, "is to visualize a process of transformation that will widen the occupational opportunities for millions of village born young people, increase total employment, and give greater scope for

the adventurous and ambitious without overpopulating the already exploding large cities."<sup>57</sup> That vision can only be realized through the concerted efforts of Third World countries and aid organizations to integrate urban and rural development. The accumulation and dissemination of knowledge and experience gained from experiments with integrated urban-rural development, and the incorporation of that experience in policy formulation and in project identification, design and appraisal, can be a starting point for reorienting assistance programs and development plans toward building self-sustaining and productive spatial systems in developing countries.

FOOTNOTES

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2. Ibid., p. 34.
3. See N.T. Uphoff and W.F. Ilchman, "Development in the Perspective of Politican Economy," in N. Uphoff and W. Ilchman (eds.) The Political Economy of Development (Berkeley: University of California Press, 1972), pp. 75-121; quote at p. 93.
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6. J. Baker, "Developments in Ethiopia's Road System," Geography, Vol. 59, No. 263, Part 2 (April 1974), pp. 150-54.
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