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Rural-Urban Linkages
and Structural Transformation

by

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(Consultant)

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DISCUSSION PAPER

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Rural-Urban Linkages
and Structural Transformation

DISCUSSION PAPER
RURAL URBAN LINKAGES
AND STRUCTURAL TRANSFORMATION

EXECUTIVE SUMMARY

i. This report presents a review of recent empirical research and current thinking about economic linkages between rural and urban areas, and their role in bringing about the structural transformation of the economy. It starts from the premise that the engine driving the local economy is demand for its goods and services, and examines the impact of shifts in demand arising from local, national and international sources. It reviews recent analyses of rural and urban household spending and propensities to consume local and nonlocal goods as incomes rise. It explores the behavior of the household as a production unit, and the role of risk and other factors which affect the way the household allocates resources of capital and labor among alternative production activities both on the farm and off it. It looks at markets affecting the flow of resources between urban and rural areas, in particular goods, labor, income (as remittances), and capital. Aside from market forces, the report also investigates the impact of macro-economic policies on rural-urban exchange, in particular those affecting terms of trade, and those concerned with the distribution of farm inputs and the marketing of agricultural outputs. Also examined is the effect of physical infrastructure and other non-price instruments of public policy that impact production and rural-urban exchange.

ii. The report argues six main points. First, sustainable growth depends on effective demand, particularly in low-income regions with predominantly rural populations, and this hinges crucially on access to nonlocal markets. Second, reforms to macro-economic policies affecting rural-urban terms of trade have strong distributional consequences affecting producers and consumers of food, the outcome of which depends largely on the structure of land ownership. Third, the propensities of farm households to adopt technical innovations in agriculture depends in part on their capacity to undertake the risks involved, which in turn is a function of access to alternative sources of income, particularly from nonfarm activities. Fourth, there is substantial potential for the growth of nonfarm activities in rural areas and small towns, particularly in commerce and services rather than manufacturing, due mainly to increased trade in agricultural produce especially food for urban markets, and to rising household expenditures on nontradables. Fifth, arguments over the relative priorities of "urban" and "rural" sectors are misplaced; policy-makers should seek instead to promote mutually reinforcing complementarities between the two. Sixth, while much of the infrastructure and many of the services that constitute rural-urban linkages have traditionally been provided by public agencies, efforts should be made to promote private sector linkages, especially in commerce and transportation, agricultural marketing, and finance for small-scale enterprises.

iii. The report ends with recommendations for research, policy, and operations. Further study is needed to examine linkages from the vantage point of urban areas and the impact of recent structural reforms. Policies should place emphasis on promoting towns, strengthening public service delivery systems, and
improving the regulatory environment governing the private sector's participation in rural-urban exchange. New operational procedures are required to better accommodate the multi-faceted approach to development implied by an understanding of linkages between rural and urban areas.
# RURAL URBAN LINKAGES
## AND STRUCTURAL TRANSFORMATION

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RURAL URBAN LINKAGES
AND STRUCTURAL TRANSFORMATION

I. INTRODUCTION AND SUMMARY

1.1 This report is about linkages, economic linkages between rural and urban areas. By economic linkages we mean trade, commercial exchange, and the flow of resources from one place to another that constitutes economic growth and development. Farmers supply food for city residents, tailors and teachers provide services for country dwellers, while merchants and traders buy and sell abroad. The process of trade that starts with the exchange of basic essentials among neighbors expands to cover an ever larger range of goods and services over longer distances to more and more places.

1.2 The exchange of goods is paralleled by flows of income, workers, and capital. Goods are shipped from producer to merchant to consumer, money changes hands, and revenues are distributed among households in villages and towns. Savings accumulate, capital is mobilized in one place, and invested in another, creating new jobs there. In search of employment, workers migrate from the country to the town, often sending their earnings back home to their family.

1.3 These exchanges, these flows, these linkages between rural and urban areas, underlie the daily transactions that take place between farmers and traders, producers and consumers. The aggregation of daily transactions brings about the growth of output, income, investment and employment. The myriad of incremental adjustments and changes that take place in these daily transactions, cumulatively brings about development and the longer term structural transformation of the economy.

1.4 As a result of this structural transformation, a nation of subsistence farmers gradually evolves into a workforce of commercial farmers, traders, and factory workers. A landscape of farms and villages slowly gives way to highways, towns and cities. A scattering of communities coalesces into a network of settlements that together spawn an expanding marketplace of buyers and sellers. Production becomes more specialized, and the economy more diversified and urban.

1.5 It is through the linkages connecting villages to towns, and towns to cities and the world beyond, that this process of growth and transformation takes place. Where these linkages are few and weak the process will be slow and faltering, but where they are pervasive and strong development will advance more surely. Economic growth depends in part on a nation's capacity to mobilize resources, and to channel these into productive activities. Measures that improve linkages between one place and another, and facilitate the timely and efficient allocation of resources, help to spur growth, raise incomes, and promote the common good.

A. Purpose of the Report

1.6 Few discussions of development can avoid referring implicitly or explicitly to rural-urban linkages. They lie at the heart of economic development and the structural transformation of the economy. Those concerned
with agricultural production and the supply of food find themselves looking at the availability of supporting infrastructure and access to local markets. Those concerned with employment and the growing ranks of young workers want to know how rising productivity and incomes in agriculture are likely to affect the potential for absorbing labor in farm and nonfarm activities in rural areas and nearby small towns. In order to weigh the relative merits of allocating scarce capital resources for infrastructure between cities, towns, and rural areas, those concerned with transportation and urban development need to know how such investments are likely to influence the growth of local economic activity, jobs and population. Those concerned with alleviating poverty and improving access for the poor to essential services have to think about how alternative programs are likely to impact poor people in cities and their rural hinterlands. Perhaps most of all, development planners generally want to know what results policies for structural adjustment are likely to achieve in different parts of the country, and what further constraints need to be relieved for such policies to become effective. All these concerns point one way or another to the interface between agriculture and nonfarm sectors, between producers and consumers, between villages and cities, to what we call here rural-urban linkages.

1.7 The purpose, then, of this report is to understand better the nature of these linkages. Of particular interest are the interdependencies between agricultural production and farm prices; rural incomes and spending; demand for food and nonfood goods; and the location and growth of nonfarm activities and employment. Among the questions to explore are: under what conditions is a region likely to experience growth or stagnation; what kinds of linkages are likely to contribute most to raising rural and urban incomes, alleviating poverty, and promoting economic development; and how can the right kinds of linkages be fostered and promoted?

1.8 In the process of examining these questions, we hope to achieve a number of goals. One is to provide an overview of current knowledge on the subject, gleaned from an extensive review of the literature. A second is to identify gaps in current knowledge that might be appropriate topics for future research. A third is to evolve an analytical framework for thinking about this subject in a coherent and meaningful manner. Most importantly, we hope that this report might suggest to the reader new ways of thinking about development, and help to improve policies, programs and projects.

1.9 It should be stated at the outset, however, that any review of rural-urban linkages such as this suffers from several limitations. Given the breadth of the subject matter, many topics which have been extensively researched in other places receive only the briefest mention here. But in other respects, despite the frequent reference to rural-urban linkages in the literature, there has been relatively little empirical research on the subject. Most empirical research on development adopts a sectoral frame of reference, (e.g., farm and nonfarm), while the distinguishing feature of the study of rural-urban linkages is, as the term implies, its reference to the spatial dimensions of development. Among the studies that do distinguish between rural and urban, few provide a more disaggregated level of spatial analysis. Furthermore, since the study of rural-urban linkages is still in its infancy, few standard conventions and methods of analysis have been established in the field. This makes it hazardous to compare results of studies conducted by different authors in different countries. Definitions of many terms such as "rural," "household," "income," "nonfarm,"
"terms of trade," vary widely, which often makes it difficult to determine whether differences in findings are real, or merely reflect the lack of consistent definitions and methods of analysis.

1.10 The diversity of the subject matter covered in this report also presents another problem, that of devising an integrating framework for a disparate set of topics. The reader who is seeking a rigorous conceptual model for the analysis of rural-urban linkages should not expect to find it here. Instead, we have adopted a simple analytical framework designed to identify the main elements to be discussed, and to show how they fit together.

B. Analytical Framework

1.11 The term rural-urban linkages has been applied to a wide variety of interactions between cities and their hinterlands. Rondinelli & Ruddle (1978), for example, identified several categories covering physical, economic, administrative, political, and social linkages. In this study, however, we are mainly concerned with linkages as the spatial dimensions of economic activity, those associated with production, consumption, income, savings, investment, and traded goods.

1.12 Linkages may be viewed as both a consequence and a cause of economic development. On the one hand, numerous factors spur the growth, proliferation, and sometimes the decline of linkages between one place and another. Among the most obvious are the initial endowment of natural resources in a region, outside demand for those resources, changing consumer tastes among the population, and technological innovations affecting both consumer demand and methods of production. On the other hand, improvements to existing linkages and the introduction of new ones can facilitate the expansion of trade between one region and another, and spawn new forms of interaction. Typical examples include building an all-weather road, linking a village to the national power grid or micro-wave telephone network, opening a branch office of a bank or supplier of farm inputs, and bringing education programs to rural schools through television and satellite communications.

1.13 In exploring the impact of outside forces on rural-urban linkages, we make a distinction between market forces and policy variables. Market forces shape linkages as a result of the interaction between demand and supply. Demand creates opportunities for producers, which induces a supply response, and together these gives rise to the flow of resources from one place to another. Producers mobilize material inputs, labor and capital; traders and wholesalers ship goods from producer to consumer, while earnings return to producers and workers. But demand and supply, and by extension rural-urban linkages, are all influenced by public policies, particularly those which affect the terms of trade between rural and urban areas.

1.14 For the purpose of this review, the national economy is represented as three spatial components: rural areas, urban centers, and the rest of the world (Figure 1.1). Since we are dealing here with numerous studies by different authors, the terms "rural" and "urban" cannot be defined consistently. In most cases, however, the rural sector includes smaller settlements, typically with populations up to 5,000, but often up to 20,000, and sometimes even larger.
Rural-urban linkages may be thought of here as trade, exchange, and the flow of resources between one spatial component of the national economic system and another. These resources may include goods, services, money, remittances, Savings, investments, public revenues and expenditures, labor, migrants, and information, to name the most obvious. While much of the discussion here will be on links between rural areas and urban areas, we are also interested in the
links between towns and cities at different levels of the urban settlement hierarchy.

1.15 We start from the premise that the engine driving the local economy is demand for its goods and services. Without demand there is little incentive to produce beyond subsistence requirements. In Chapter II, the structure of demand is associated with three sources: local, domestic, and international. Early on, when the population is mainly rural, incomes are low, and there is little trade with other places, the main source of demand is indigenous from within the region itself. Under such conditions, demand is likely to be weak, and the question arises to what extent growth can be self-induced by raising local output, employment, and incomes in agriculture. Later, as the region becomes more closely integrated into the larger national economy, demand grows partly because of the larger urban population, and partly due to shifts in the structure of production and the increasing importance of inter-industry linkages which spurs demand for inputs into production. The larger the market, the greater the potential growth of demand. But at the international level, where markets are largest, potential growth is greatly affected by restrictions on trade, and innovations in technology.

1.16 The structure of demand is continually changing due in part to shifts in consumer spending. Chapter III reviews empirical studies on household expenditure patterns, to determine how these change as farmers shift from subsistence to commercial agriculture, as household incomes rise, and as the population becomes more urban. Spending patterns are also affected by other factors, such as the size of the household, the size of the landholding, distance from urban centers, and the availability of consumer goods. Changes in spending that arise from these factors affect demand for goods and services produced locally, domestically, and abroad. This results in the decline of some activities, and the growth of others, with a corresponding shift in the nature of employment in villages, towns, and cities.

1.17 Shifts in consumer spending and the structure of demand induce changes in production. In developing countries, especially those with lower levels of income, the main production unit is the household, whether as a farm or as a small business enterprise. Chapter IV explores the household's capacity to respond to changes in demand, and examines factors that affect the way in which the household allocates its resources of labor and capital among alternative production activities, both on the farm and off it. It is argued that a household's decision reflects its assessment of the risks involved in a given action, and its capacity to sustain losses should things go wrong. Thus decisions to adopt new farming methods, to open a business, or to migrate to the city are likely to depend on such considerations as the number of workers in the household and their level of education, the amount of land at its disposal, its location relative to urban centers, the level of income, and the extent to which earnings come from diversified sources.

1.18 The capacity of a region or nation to mobilize production resources in response to shifts in demand depends on the functioning of its markets for goods, labor, and capital, which is reflected by the movement of these resources between rural and urban areas. Chapter V examines the markets and institutions associated with these movements, and probes how they evolve over time as incomes rise. In each case, we describe the sorts of flows that take place, and attempt
to identify factors which facilitate or impede these flows. The movement of goods is explored through marketing systems for agricultural produce, the role of middlemen, and the nature of price margins. The movement of labor is interpreted as a function of the availability of jobs and opportunities to earn income, but also as a function of household decisions concerning the allocation of its resources. The remittance of earnings by household members working away from home is seen as a contribution to total household income, some part of which may be saved or invested in farm or nonfarm activities. The flow of capital is seen as a function of investment opportunities in rural and urban areas, although the availability of capital for such investments hinges on the effectiveness of local financial markets.

1.19 While market forces play a major role in shaping the evolution of linkages, government policies also exert a strong impact on the nature and outcome of interactions between rural and urban areas. Chapter VI looks at policies that affect rural-urban terms of trade, production and marketing in agriculture, and the provision of public infrastructure. Policies governing the relative prices of farm and nonfarm goods directly affect agricultural productivity, farm household incomes, and indirectly the propensity of labor to seek employment opportunities outside agriculture and thus to migrate to urban areas. Policies impinging on the operation of markets for the distribution of farm inputs and the marketing of farm outputs affect the availability of these commodities, and thus returns to producers and the cost of food to consumers. The provision of infrastructure is another instrument of public policy that may be used to complement price policies in supporting the growth of agriculture, manufacturing, and other nonfarm activities.

C. Main Findings and Policy Implications

1.20 Ultimately, this study is intended to yield insights into the nature of rural-urban linkages, and the factors which influence the flow of resources among cities, towns, and countryside. To help the reader maintain a sense of the larger picture while following the detailed successions that follow, we present at the outset a summary of the main findings and policy implications. Several of these findings are well supported empirically, some are still open to dispute, while others are conjectural and remain to be investigated more thoroughly. Each group of findings is followed by a brief discussion of the implications for policy which they suggest.

Engines of Growth

(a) Raising agricultural output stands little chance by itself of bringing about self-sustaining economic growth in a region.

1.21 There is little evidence to support the notion that a region can somehow induce its own growth simply by raising agricultural output. This is especially true for regions that are small and predominantly rural, where there is little or no demand from outside agriculture. Even if a rise in output is accompanied by an increase in farm employment and wage earnings, the growth in local demand is unlikely to absorb the additional supply. As a result, prices
will fall, reducing the farmer's incentive to maintain further increases in production.

(b) Effective demand, initially from outside the region, is an essential condition for sustained growth in agriculture.

1.22 All the evidence indicates that sustained increases in agricultural production only occur when there is effective demand for the region's produce. Initially, this may be in the form of exports of cash crops, food for deficit regions in other parts of the country, or most importantly demand from larger cities and growing urban populations. Only when a region is linked to markets large enough to absorb increases in output, and to offset any softening in prices, can growth in local production be sustained. Once this occurs, it sets in motion further rounds of local demand, from households whose incomes rise as a result of increased production of both farm and nonfarm goods and services.

(c) Both for agriculture and rural industries, intermediate demand eventually replaces final demand as the primary impetus for growth.

1.23 Initially, where income levels are low, the primary impulse for the growth of agriculture and rural industry derives from household demand for food and other consumption goods. This reflects the switch from subsistence farming to commercial production, and the substitution of home produced items with purchased goods. Gradually, though, as income levels rise and consumer demand broadens, agricultural processing and manufacturing expands, giving rise to increased demand for intermediate inputs for production, which gradually replaces final demand as the primary impetus for the growth of agriculture and rural industries.

1.24 These findings indicate that in order for growth to occur in a given region, there needs to exist not only the initial natural resource, but also effective demand for the region's produce. Thus, efforts to promote growth in agriculture should not be concerned merely with technical efficiency and increased output, but should also pay attention to the linkages between producers and markets, especially those outside the region itself in larger urban centers and abroad. The findings also cast doubt on the feasibility of growth strategies based on autonomous development or "selected closure," in which production is geared primarily to local or domestic markets. This will especially be the case in regions with low incomes and a predominantly rural population, where demand for food is limited by the size of the nonfarm population, and demand for nonagricultural goods is restricted by the modest purchasing power of the population.

Rural-Urban Terms of Trade

(a) Macro policies affecting the terms of trade between agriculture and the rest of the economy have a major impact on the rural sector.

1.25 Among many macro policies that affect the terms of trade between agriculture and the rest of the economy, those concerning the currency exchange
rate, the tariff structure, and price controls on farm produce matter most. The price of foodstuffs relative to cash crops for export influences farm household decisions on agricultural production. The price of farm goods relative to nonfarm goods determines the purchasing power of rural incomes, and the propensity for labor to seek employment outside agriculture, and thus to migrate to urban areas.

(b) **Domestic terms of trade are not necessarily biased in favor of the urban sector.**

1.26 Contrary to widespread impressions, empirical studies indicate that terms of trade between agriculture and the rest of the economy do not uniformly favor the urban sector. Government policies for cheap urban food have relied in the past on subsidies to consumers as often as low producer prices. Terms of trade are also shifting constantly over time, as policies are revised, and market conditions change, sometimes moving in favor of, and sometimes against the rural sector. Furthermore, recent policy reforms aimed at removing distortions in the economy suggest that in many countries any urban bias in the terms of trade will have been much reduced.

(c) **Shifting the terms of trade has major consequences for the distribution of income, and moves that favor agriculture may injure the poor.**

1.27 Improvements in the domestic terms of trade for agriculture may raise farm output, and increase rural employment and incomes, but under certain conditions, such a move may work to the detriment of both the rural and the urban poor. Better prices for staples benefit surplus producers, but harm the landless and smallholders who are net purchasers of food. To some extent higher prices for food may be offset by greater earnings from wage labor in agriculture, and higher returns in the nonfarm sector, which arise from increased spending by farm households.

1.28 Clearly, macro economic policies have a profound effect on the terms of trade between urban and rural areas, and in many countries these are disadvantageous to agriculture and rural producers. Conventional wisdom suggests it is better to remove distortions embodied in policies affecting terms of trade. However, this needs to be considered carefully, since the steps required—such as freeing the currency and removing price controls—essentially redistribute income among consumers and producers of food, and shift patterns of demand associated with the redistributed income. Depending on the structure of agricultural production and particularly the pattern of land ownership, the result may be reduced or increased inequalities in the distribution of income. Depending on the structure of demand of the households which receive larger incomes, there may be a net gain or loss in employment in agriculture and nonfarm sectors. To a great extent, the final outcome depends on the pattern of land ownership.

### Agricultural Productivity, Nonfarm Income, and Small Towns

(a) **In some areas, raising the price of agricultural commodities may not spur increases in productivity as much as improvements in infrastructure.**
1.29 Price rises induce increases in agricultural output and income in areas where production and marketing is not seriously constrained by other factors. However, in areas where this is the case, price rises may have little effect on production until such constraints are eased. In such cases, therefore, increases in farm output and incomes are more likely to follow from improvements in roads and transportation services, the distribution of inputs, the operation of marketing systems, and other services in support of agriculture.

(b) Farm households achieve productivity gains in agriculture when their sources of income are diversified.

1.30 Any action to raise farm output and productivity—whether putting more land under cultivation, shifting from subsistence crops to higher value cash crops, or investing more in labor or inputs—involves the risk of losing income. Most farmers can ill afford this, especially in developing countries where the business climate is unstable and market conditions fluctuate widely. Farm households, however, may be more willing to accept the risks involved if they can call on alternative sources of income, such as wage labor, salaried employment, or a nonfarm business enterprise. Some evidence suggests that among households with small farms, those with more diversified sources of income achieve higher levels of agricultural productivity.

(c) Agricultural productivity is higher among farmers living close to urban centers.

1.31 Numerous studies report that incomes are higher among farm households living closer to cities and towns. Farm revenues are greater because urban households demand higher-value farm produce, and nonfarm earnings are greater because of the better employment and business opportunities within commuting distance in urban areas. The combination of higher incomes and more diversified sources of income, that are possible when living close to an urban center, allows farmers greater latitude in risk taking, and thus permits them to experiment with new methods of production. In addition, therefore, to their functions as centers for the distribution of agricultural inputs, and for the marketing of outputs, small towns and urban centers enable farmers to become more productive, due in part to the opportunities they provide for diversifying household incomes.

1.32 These findings suggest that efforts to raise output and productivity among farm households through price incentives and technical innovations may be too narrowly focused. Price rises may have little effect if farmers face other major obstacles in marketing their produce. Farm households may resist adopting technical innovations if the attendant risks are perceived to be unacceptable. Thus, programs and policies designed to raise output and productivity in agriculture should also take into account access to markets, and opportunities for farm households to diversify their incomes, which would raise their propensity to adopt innovations. Both of these considerations stress the importance of good access for rural residents to urban centers and adequate physical and institutional infrastructure to support both agriculture and nonfarm activities.
Household Demand and Local Multipliers

(a) Poor rural households devote a high proportion of total spending to food, and this proportion falls slowly among richer households.

1.33 Given the low income levels of the poor in many rural areas of developing countries, it is not surprising to find that they devote a high proportion of spending to food. However, contrary to expectations based on Engel’s laws, this proportion falls slowly among higher income households, and often remains virtually unchanged. This is partly due to the transition from subsistence to commercial farming, when households replace their own produce with purchased food, and partly due to the replacement of staples with higher cost alternatives like milk, meat, and wheat. It indicates that in many poorer countries, agriculture will remain the key sector in the local economy for some time to come. It also underlines the limited scope for the growth of large scale manufacturing catering for domestic markets while rural income levels remain low.

(b) Poor rural households devote a low proportion of total spending to imported goods and services, and this proportion does not increase appreciably among richer households.

1.34 Contrary to expectations, higher income households do not devote proportionately more of total spending on imports from outside the local region. Although few studies have addressed the matter directly, available evidence indicates that as incomes rise, spending on locally provided goods and services tends to rise as fast or even faster than spending on imports. Particularly significant are increases in spending shares for housing, health and education, and social obligations, much of which is nontradable. In terms of cash outlays, higher income households spend proportionately more of their total spending on locally provided goods and services than do lower income households. However, as might be expected, spending shares on imports are higher across all households in regions that are more open to the rest of the world.

(c) The structure of consumer spending, coupled with the economics of manufacturing, indicates that most nonfarm employment in rural areas will be in commerce and services.

1.35 An analysis of the composition of household spending indicates that as incomes rise, households spend higher proportions on nontradables, and that the bulk of these nontradables takes the form of services rather than manufactured items. Furthermore, most modern manufacturing enterprises are likely to locate in larger urban centers rather than rural areas, since they offer better access to consumer markets, skilled labor, and other supporting services necessary for production. This implies that as rural income levels rise, most of the growth in rural nonfarm activities is likely to occur in services, commerce, and transportation, rather than manufacturing. Such a pattern is confirmed by a number of empirical studies showing that in rural
areas and among smaller towns the greater part of employment growth is accounted for by these sectors.

1.36 Collectively, the evidence suggests that there is substantial potential for the growth of nonfarm activities in rural areas and small towns. Rising expenditures on foodstuffs by rural households point to increasing local trade in farm produce, and hence the proliferation of marketing, packaging, storage and transportation services associated with this trade. Likewise, increased spending on nontradables points to opportunities for commercial and service oriented activities, though not so much for manufacturing, which is vulnerable to competition from more efficient producers in larger towns. Additional opportunities may also arise as a result of the privatization of activities previously performed by state agencies, particularly in marketing and distribution. All of this implies that policies and programs designed to promote regional development should pay close attention to addressing the needs of nonfarm enterprises, especially as they relate to physical infrastructure, transportation, financial and administrative services. Equally important is the regulatory environment governing the operation of small-scale private-sector activities, a point which is taken up in more detail in Chapter VII.

Rural-Urban Interdependencies

(a) Growing urban populations spur farm incomes.

1.37 As urbanization advances, the number and proportion of non-farming households increases, giving rise to a steadily growing demand for food, to be provided by a smaller fraction of a nation's households. In addition, the greater incomes of urban residents creates demand for higher-value farm produce. The combination of larger markets for each producer, and the shift in demand towards higher-value produce, provides a strong impulse for increased production of food, and helps to raise productivity, employment and incomes in agriculture.

(b) Raising agricultural production spurs output and incomes in nonfarm activities, much of which is located in smaller towns and rural areas.

1.38 The impact of increased agricultural production on nonfarm activities is felt in three ways: through consumption, and through the backward and forward linkages associated with agricultural production. As is the case with food, rising farm income induces households to substitute home production with purchased goods. Empirical studies of household consumption indicate that the greater part of spending accurses to local producers of goods and services located in nearby rural areas and small towns. Increased purchases of food, coupled with increased output of agricultural produce, gives rise to an expansion in forward linkages, particularly in marketing, transportation, and storage services. As income levels rise, and agricultural producers substitute capital and material inputs for labor, backward linkages from agriculture spur other kinds of nonfarm activities, some of them--like production of fertilizer and agrochemicals--in more distant places.

1.39 Historically, there have been two opposite schools of thought on development priorities for urban and rural areas. It used to be argued that industrialization was the path to development and modernization, and this was
the rationale for channelling resources into manufacturing and urban infrastructure, often to the detriment of agriculture and the rural sector. Later, it was argued that priorities should be reversed, on the grounds that it is rising farm incomes that spur the growth of nonfarm activities and the growth of towns and cities. Recently, the pro-urban arguments have been reformulated, stressing that it is urbanization and the expansion of commerce and services that drive the growth of agriculture and rural incomes.

1.40 Empirical research demonstrates that the two sectors are mutually interdependent, each supports the other, and both can benefit from demand from the world outside. Given their mutual interdependence, policy makers and program planners concerned with regional development would do better to eschew misdirected deliberations over the relative importance of "urban" or "rural" priorities, and focus instead on opportunities for reinforcing complementarities between the two.

Rural-Urban Linkages and Structural Transformation

(a) Demand becomes more effective in a region when it has vital and extensive linkages with the outside world.

1.41 Among the many linkages that affect a region's participation in national and foreign markets, the ones that matter more are roads, transportation services, marketing systems, information, and financial services. By reducing shipping costs, better roads and transportation services allow producers to compete in more distant locations. Free markets with multiple buyers and sellers, coupled with reliable current information on market conditions, facilitate the movement of produce between surplus and deficit areas, enabling producers to gain better prices, traders to reduce their costs, and consumers to pay less. By improving access to credit, the delivery of appropriately designed financial services into small towns and rural areas enables producers and traders to take advantage of market opportunities.

(b) As intermediate demand increases in importance, linkages among rural areas, small towns and larger cities become more distant and widespread.

1.42 In areas where income levels are low, final demand predominates, and the principal linkages are those between producers and consumers in small towns and their rural hinterlands. As income levels rise and intermediate demand grows in importance, producers in small towns and rural areas develop increasingly diverse linkages with markets in more distant locations.

(c) Improving linkages between rural and urban areas will spur growth in some places and cause decline in others.

1.43 Initially, at low income levels, especially when transport links are poor and shipping costs are high, much of the marketing of agricultural produce takes place in nearby villages destined for local consumption. Likewise, much of the demand for manufactures is met by local producers. As linkages improve between rural areas and larger more distant towns, many of the functions previously performed by settlements at the lowest level of the urban hierarchy are transferred to adjacent towns with better access and facilities. Primary
marketing activities tend to concentrate in locations where conditions are more favorable, while inefficient local petty manufacturers are replaced by larger scale modern enterprises located in bigger cities. Local industries that survive are those that successfully make the transition from producer of consumer items for local households to producer of intermediate inputs for larger national markets. While improved links may result in the decline of manufacturing in rural areas and smaller towns, they also spur the growth of other sectors, chiefly commerce, transportation, and services.

(d) Infrastructure cannot induce growth, though it may help.

1.44 Efforts to promote economic growth in a specific town or region by improving infrastructure and linkages will fail unless there is latent demand for the resources or products of that town or region. However, improved infrastructure may enable local producers to enter the market or to become more competitive by reducing transport costs. Even so, improved infrastructure in smaller towns is unlikely to induce industry to locate there, unless it requires close access to raw materials, such as weight losing mineral processing activities, or processing of perishable agricultural produce. Similarly, infrastructure in the form of workshop space or sheds for small businesses may lie idle unless the scale of demand is sufficient to enable those enterprises to afford the cost of renting or buying such facilities.

1.45 Empirical research demonstrates clearly that linkages between urban and rural areas facilitate commercial exchange and create effective demand. Stronger and more widespread linkages reinforce demand and expedite the structural transformation of the regional economy. This suggests that policies and programs to promote regional development and to reinforce complementarities between agriculture and the nonfarm sectors should aim to strengthen linkages among towns and between towns and rural areas. Of particular importance are the highway network and rural roads, transportation and communication networks, marketing and distribution systems, and financial services. While much of the infrastructure and many of the services that constitute rural-urban linkages have traditionally been provided by public agencies, development efforts should focus on opportunities for promoting private sector linkages, especially in commerce and transportation, agricultural marketing, and finance for small-scale enterprises.
II. ENGINES OF GROWTH

2.1 The engine driving the growth of any region's economy is demand for its goods and services. The sources of demand may be local, national, or international. At early stages of development, when the population is largely rural, and there is little trade with other places, the primary source of demand is likely to be indigenous, coming from the residents of the region itself. Later, as the region becomes more closely integrated into the larger national economy, the impetus for growth shifts to demand from other parts of the country, particularly larger cities. A third source of demand are international markets, particularly where the region is well endowed with natural resources and other potential assets. A region may experience demand from all three sources, though the relative importance of each will depend in part on the size of the region, the density of population, levels of income, and especially the extent to which the local economy is linked to the outside world.

2.2 The nature of demand greatly influences the type of linkages that exist between rural and urban areas, and the way they function. The stimulus of demand prompts traders to seek suppliers, suppliers to seek resources of capital, labor, and materials for production, and workers to seek employment. It also prompts investment in equipment and facilities for production, marketing and distribution, and induces demands for government to make supporting investments in public infrastructure and services. The exports of produce, the migration of labor, and the investment of capital, all generate income flows into and out of the region. In short, demand is a key factor which brings about the growth and proliferation of linkages between rural and urban areas.

2.3 In this chapter, we examine the different sources of demand, the roles they play at each stage of development, the implications for agriculture and non-agricultural activities, and the potential impact on linkages between rural and urban sectors of the economy. In each case, we look for factors which spur or retard the transition from an indigenous to a more open economy, in which production within a region gradually becomes more specialized and diversified in response to changes in demand from the region itself, the rest of the country, and the world beyond.

A. Indigenous Demand

2.4 In many parts of the world, particularly those which are at an early stage of development, and still somewhat isolated from the mainstream economy of the country, the primary source of demand is likely to be indigenous, coming from the region itself. The strength of this demand, and the impetus to growth which it provides, depends in part on the size and density of population, the level of income, and the proportion of the population which live and work outside agriculture.

2.5 Initially, in a predominantly agricultural economy when incomes are still low, demand is likely to be weak. The small size of the urban population and the nonfarm sector generates limited demand for agricultural produce. Given weak demand for their produce, farm households have restricted incomes for the
purchase of agricultural inputs and nonfarm goods and services, a phenomena which Johnston & Kilby (1975 p. xvii) refer to as the "sales-purchase limitation."

2.6 Some authors suggest that even under these conditions, agriculture can lead the way to a self-induced process of economic growth. Mellor (1976), one of the first to articulate such a scenario, argues that the growth process starts by raising output and employment in agriculture. This yields higher incomes for farm households, a large part of which is spent on locally produced goods and services, which in turn induces a further expansion of employment opportunities for surplus rural labor.

2.7 This scenario is based on several propositions, two of which merit attention here. The first is that increased agricultural output results in higher aggregate income in the region. The second is that higher rural incomes boost demand for nonfarm goods and services produced locally by labor intensive methods.

Agricultural Demand and Incomes

2.8 In order for increased agricultural output to result in rising incomes for farm workers, demand has to expand enough to offset any fall in price due to increased supply. If demand is weak, as Mellor (1976, p. 14) points out, "agricultural prices may decline sufficiently to discourage continued growth of production."

2.9 Mellor argues, however, that demand will increase due to additional spending by households whose incomes rise as a result of raising production, particularly low income households supported by the extra wage earners hired to raise output. However, since hired laborers spend only part of their wages on farm produce, the additional income received by producer-employers from this source must be less than their costs in wages paid to the additional labor. Unless demand is supplemented by additional spending by other households, or purchases of intermediate inputs by industry, there will be no net gain in income to agricultural producers, and hence little reason to hire extra labor.

2.10 Various studies report increases in farm output, employment and incomes as a result of new production technology and other productivity improvements. But almost invariably the region under consideration either has a large population to generate a sufficient increase in demand, or much of the increased output is not consumed locally, but exported to more distant cities and markets outside the region.

2.11 Khan (1981 p. 238), for example, indicates that as a result of the green revolution, the area under cultivation in Pakistani Punjab increased 25 percent between 1959 and 1971, and increased cropping activity generated 1.22 million man-years of additional employment. Similar results are reported following the introduction of new seed and fertilizer technology in the Indian Punjab. There, the male agricultural labor force grew at 3.1 percent per annum between 1961 and 1971, compared to 1.95 percent for all India, and agricultural income grew at a rapid 8.3 percent per year, contributing to a rise in the proportion of the total work force employed in agriculture from 56 percent to 63 percent in the same period (Bhalla 1981 p. 215). In rural Java, Manning (1988) indicates that from 1980 to 1985 agricultural employment grew twice as
BOX 2.1: IMPACT OF THE GREEN REVOLUTION IN THE INDIAN PUNJAB

As an example of what happens when a region adopts improved agricultural technology, it is of interest to examine the case of the Indian Punjab, home of the 'Green Revolution'. Situated in the northwestern part of India, the Punjab is a small but fertile state, having the highest per capita income and the highest agricultural production in the country. Nearly 90 percent of the area is under cultivation, more than 85 percent of the total cropped area is irrigated, and 81 percent of the farmers are owner-cultivators.

The state adopted new agricultural techniques as early as the mid-sixties. Inputs increased markedly, especially the net sown area, the number of male workers, and both agricultural and fixed capital. Output grew at the rate of 7 percent per annum from 1966-67 to 1970-71, compared to only 5.7 percent in the rest of the country. Both per capita and absolute agricultural income have continued to grow, except in the period 1970-80 when they dropped suddenly, but still remained the highest in the country. Over the period 1960-1980, per capita real income increased threefold. (Chaudhuri and Dasgupta, 1985).

Both ownership and operational holdings, however, are unequally distributed Bhalla (1981). This means that income is unevenly distributed and gains in income obtained through the adoption of new technology are also inequitably shared by the farmers. Though agriculture has absorbed increasing amounts of labor, employment changes differ with respect to large and small farms, there being higher labor input on smaller farms. Off-farm employment seems to be rather insignificant and one of the reasons for this is that in Punjab working on the farm and off the farm are not "additive" activities, (Chaudhuri and Dasgupta 1985). They explain that small farmers are able to take wage employment only in the off-harvest period when it is not easily available. Moreover, they find that small farmers may be reluctant to hire out their own labor for reasons of prestige. Zarkovic (1987), on the other hand, finds some evidence that agriculture in this region has stimulated the expansion of industry, most of it producing inputs for agriculture, even though the rate of industrialization has been slow.

Government intervention in the market has generally acted to prevent increases in agricultural productivity from bringing about any significant decline in the relative price of agricultural products. Using fixed prices aimed at providing a fair return to farmers while protecting consumers from high prices, the government has been able to redistribute surplus foodgrains from Punjab to deficit regions around the country. However, there is evidence that these fixed prices are lower than international open market prices (Zarkovic 1987), and this has led to much controversy regarding agricultural price policy in the country.

The success of the 'Green Revolution' in this state is also largely attributable to huge investments made by the government in the creation of basic infrastructure, more than any other state in the nation (Bhalla 1981). This has included power, roads, irrigation, markets, extension services, and the provision of credit. In addition, wide use of modern inputs has also enabled Punjab farmers to achieve impressive levels of productivity.

Though the gains of the 'Green Revolution' have been substantial, assessments are mixed. Some conclude that only the upper strata of farmers have benefitted, while others contend that prosperity has reached all, including the landless peasants. The opposing views notwithstanding, agricultural development in Punjab has played a prominent role in the achievement of food sufficiency for the country.
fast as the previous nine year period, due to the spread of multiple cropping related to irrigation investment and the relatively slow pace of mechanization. But each of these regions has large populations—over 13 million in Indian Punjab—and actively trades with other parts of the country. (See Box 2.1)

2.12 Often, though, especially in Africa, conditions are quite different. Due to poor transportation and communications, many regions are cut off from the mainstream economy, populations are small and scattered, and incomes are low. The growth of productivity, output, and employment in agriculture is stagnating, even declining, giving rise to falling incomes and reduced employment (Lofchie 1986). The stagnation of the countryside, as Arnould, (1985) illustrates in the Zinder region of Niger, deprives the few urban industries of consumer outlets. In such cases, as Lewis (1979) points out, the notion of self-induced growth through indigenous demand is clearly not a feasible proposition.

Rural Nonfarm Activities

2.13 Nevertheless, whether the initial engine of growth for agriculture is demand from within the region or outside, there is strong, though not uncontested, evidence that the main force driving the growth of rural nonfarm activities is the rise of agricultural incomes and demand from the local population itself. Gibb (1984 p. 132) shows that in the Philippines in the late 1960s, rural areas and small towns with populations under 20,000 accounted for fully two-thirds of total non-agricultural employment, and argues that consumption expenditures derived from agricultural income are the prime determinant of the growth of this employment. Similarly, other studies in Taiwan (Chinn 1979), the Muda region of Malaysia (Bell et al 1982), and the Kutus region of Kenya (Bendavid-Val et al 1988), show that the growth of nonfarm activities is closely related to the growth of agricultural output and income.

2.14 Not all analysts, however, are in agreement. Writing about Java, Manning claims that the spin-off in employment creation in rural areas as a consequence of the green revolution has probably been remarkably small. He presents figures showing that at a time when agriculture was prospering, the growth of employment in nonagricultural activities was slowing. Similarly, in the Indian Punjab, Bhalla (1981) mentions that during the decade of rapid agricultural growth between 1961 to 1971, the nonagricultural share of the total workforce fell. Both writers conclude from this that agriculture did not have much of an impact on the growth of other activities.

2.15 Employment figures alone, however, do not tell the whole story. It is true that the accelerated growth of employment in agriculture in both these cases resulted in slower growth of employment in other sectors. This is because large numbers of workers previously engaged in marginally productive jobs in other sectors were able to obtain more productive employment in agriculture, due to the introduction of new technology. But slower employment growth does not necessarily mean slower growth in output, productivity and earnings. In the Punjab, the non-agricultural share of state income actually increased from 52 percent to 55 percent, spurred in part by the rising incomes of agricultural workers.

2.16 Demand for locally produced nonfarm goods and services undergoes a shift as incomes rise, as the region becomes more closely integrated with the
larger national economy, and as local producers face increasing competition from modern large-scale manufacturers elsewhere. The first items to be replaced are low cost handicrafts and cottage goods which traditionally are produced in subsistence-oriented farm households. Binswanger (1983) observes in Thailand that rural consumers exhibit no preferences whatsoever for rurally-produced goods. These can be expected to disappear gradually, as they are replaced by industrial goods such as plastic containers, soap and detergents, tobacco products, and cooking utensils.

2.17 Demand for other locally made goods, however, may remain strong for quite a while, depending in part on how quickly cheaper or better quality replacements become available from larger-scale domestic or foreign manufacturers. Typically, these include wood products like furniture and carts, metal products like farm and household implements, and fiber products such as mats, baskets, and ropes. (See Kilby & Liedholm 1986, Freeman & Norcliffe 1985, and Binswanger 1983). As Anderson and Leiserson (1980) show, based on an examination of demand for non-food goods and services, small and landless farmers rely more extensively on simple labor-intensive products of local enterprises than do large farmers who turn more toward modern capital-intensive inputs from urban areas and abroad.

2.18 Many of the establishments making these items will eventually fail, in face of competition from imports, or domestic producers able to take advantage of the economies of scale that come with larger markets associated with a growing mass of consumers and the spatial integration of rural areas. The major problems facing the nonfarm sector in a rural area are low levels of productivity due to the lack of infrastructure, and the small scale of the market.

2.19 Other establishments, however, may survive and prosper, slowly evolving into larger manufacturing enterprises as they capture larger markets from their local base. Such a pattern is documented by Lewis & Williams (1987) in Portugal. Their analysis of employment characteristics, inter-firm linkages, and conditions of firm formation reveals the dominance of independent and indigenous growth in the present wave of industrialization in Central Portugal.

2.20 Apart from manufactures, expenditures by rural households also supports the growth of commerce, transport and other nontradables—goods and services that can only be supplied locally, such as education, housing, domestic help, and those associated with social obligations. This is reflected in data from Kismayo town in Somalia, where the number of licensed establishments increased almost 50 percent in the eight year period ending 1987, most of the increase coming from the proliferation of small stores and operators of trucks and taxis, while manufacturing establishments declined, particularly tailors (Evans et al 1988). Demand for nontradables also tends to rise as incomes rise. In studies of household expenditures in Malaysia and Nigeria, for example, Hazell & Roell (1983) report that the share of incremental expenditure allocated to nontradables is greater among higher income than lower income households.

2.21 Generally speaking, total spending by rural households on locally produced and supplied nonfarm goods and services increases steadily as income levels rise. This means that indigenous demand from local residents remains the driving force for the growth of most nonfarm activities, although as demand shifts the composition of these nonfarm activities also changes. While petty
manufacturing tends to decline, it is replaced by an increasingly diverse range of commercial enterprises, personal services, entertainment, and public and private institutions.

B. Demand from National Markets

2.22 As development advances, and a region becomes more closely integrated into the larger national economy, the major impetus to growth is likely to shift from indigenous demand to national and international markets. At the national level, not only is the market bigger, but there is a larger population of nonfarmers, and greater differentiation in consumer preferences among households. As the region gains access to larger markets, demand for its products strengthens, and expands the scope for raising output without a softening in prices. The greater demand for farm produce spurs output and raises farm incomes, which means increased local spending on nonfarm goods and services.

Demand for Rural Produce

2.23 Initially, when the population of cities is small relative to the farming population, the role of the urban sector as source of demand for farm produce is restricted. Nonetheless, even at relatively low levels of urbanization, demand from other parts of the country can be significant. In both the Muda region of Malaysia, and the Gusau region of Nigeria, Hazell & Roell (1983) mention that aggregate incomes depend primarily on the production of agricultural crops, particularly foodgrains, most of which is exported out of the region.

2.24 The role of urban demand rises steadily in importance as urbanization advances. This point has been made by Johnston and Kilby (1975 p64), and is illustrated in Figure 2.1. Assuming that the average size of nonfarm households is five members, then, when 20 percent of the country is engaged in nonfarm activities, each farm household needs to produce enough food to support only 1.25 additional people. But when the nonfarm population rises to 80 percent of the total, each farm household has to support a further 20 people. Thus the process of urbanization itself expands demand for food, and provides incentives to increase agricultural output and to raise productivity as labor leaves agriculture for other forms of employment.

2.25 The importance of the urban sector in spurring advances in the agricultural sector has also been stressed by Cour (1988, Annex 2, p. 14). He points out that productivity levels among food producers are generally higher in countries with a larger share of urban population, where the ratio of total population to food producing population is higher. He also claims that food productivity tends to grow faster in countries where this ratio grows at a high rate, and supports his argument with data from Burundi and the Ivory Coast. (See Table 2.1.)

2.26 Expanding demand due to the growth of large cities also affects the nature of agricultural production in surrounding areas, inducing a shift from subsistence to commercial farming, and a switch to higher value crops in response to the changing consumer preferences associated with rising household incomes. Katzman (1975) documents the impact of the building of Brasilia on agricultural
production in its hinterland, creating new opportunities for 90,000 families to supply food to the capital city, and inducing a shift in production from beef and rice, destined for distant markets in São Paulo and Rio de Janeiro, to higher value but more perishable fruits and vegetables for Brasilia close by. A similar example comes from Pakkasem (1981), who shows how the continued growth of Bangkok induced farmers to adopt modern inputs, to intensify production, and to expand double cropping. Other examples are given by Song (1981) for Seoul, and Mortimer (1970) for Kano in Nigeria.

Demand for Urban Goods and Services

2.27 In an economy with little or no industrial exports, the growth of manufacturing and urban sectors is largely dependent on domestic demand, both for final and intermediate goods. Domestic demand is a function of the size of the population, its income level, and the distribution of income among households. Income is determined in part by the level of productivity, and in turn determines the share of spending to be allocated not only for nonfarm consumer goods and services, but also for production inputs. The distribution of income also needs to be taken into account, since the same per capita income can generate different volumes of demand for food and nonfood items depending on how it is distributed.
<table>
<thead>
<tr>
<th>Year</th>
<th>1965</th>
<th>1985</th>
<th>2000 (projected)</th>
<th>Annual growth rate 1965-85</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVORY COAST:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio of total population to agricultural population</td>
<td>1.26</td>
<td>1.73</td>
<td>2.23</td>
<td>1.6%</td>
</tr>
<tr>
<td>Agricultural Productivity (Ratio of agricultural value added to agricultural population)</td>
<td>121</td>
<td>187</td>
<td>252</td>
<td>2.1%</td>
</tr>
<tr>
<td>BURUNDI:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio of total population to agricultural population</td>
<td>1.09</td>
<td>1.12</td>
<td>1.2</td>
<td>.3%</td>
</tr>
<tr>
<td>Agricultural productivity (Ratio of agricultural value added to agricultural population)</td>
<td>16</td>
<td>17.5</td>
<td>20.3</td>
<td>.7%</td>
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</tbody>
</table>


2.28 Initially, at low levels of urbanization, the growth of the market for urban goods and services depends primarily on the growth of population and productivity in agriculture. At this point, the size of the non-agricultural sector is relatively small, but the proportion of income earned by the sector from agriculture is high. In India in the early 1950s, Mundle (1985) estimates that agriculture's share of non-agricultural income was 61 percent, coming mostly from household demand for consumer goods. (See Table 2.2.) Twenty years later, the size of the non-agricultural sector had grown substantially, and the proportion of earnings coming from demand in agriculture had fallen to 47 percent. However, spending on producer goods for agriculture had risen in importance, relative to purchases of consumer goods, reflecting the growth of backward linkages from agriculture due to increased use of modern inputs.

2.29 The growth of the urban sector, and improvements in transportation links, coupled with the rise in urban and rural household incomes, combine to create sufficiently large domestic markets for an increasing number of mass consumption goods. As Engels law indicates, rising household income is accompanied by increased spending on nonfood items. Furthermore, as Johnston & Kilby (1975) point out, the operation of Engel's law is not the only factor affecting consumer spending. Urban living creates all kinds of new demands not
TABLE 2.2: DEMAND FOR NON-AGRICULTURAL GOODS AND SERVICES FROM AGRICULTURE IN INDIA (1951-71)

<table>
<thead>
<tr>
<th>Period</th>
<th>Consumer Goods</th>
<th>Demand for Producer Goods</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951-52</td>
<td>52</td>
<td>9</td>
<td>61</td>
</tr>
<tr>
<td>1960-61</td>
<td>41</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>1970-71</td>
<td>38</td>
<td>9</td>
<td>47</td>
</tr>
</tbody>
</table>

SOURCE: Mundle (1985), Table 4, p.56
Note: All figures are expressed as a percentage of value added in non-agriculture.

present in rural areas, including food processing, transportation, housing, and public services such as utilities, police, fire, and justice. At the same time, the expansion of inter-industry purchases of producer goods adds to total demand for the goods and services of the urban sector (Jones 1986). The combination of rising incomes, new demands associated with urban living, and expanding inter-industry linkages, spurs innovation and diversification in manufacturing and promotes the proliferation of a wide variety of services.

2.30 Gradually, as is also the case with agricultural demand, the urban sector takes over from the rural sector as the principal source of demand for non-agricultural products, particularly in larger urban regions. At the same time, small-scale producers located in smaller towns are increasingly likely to be replaced by larger-scale producers located in bigger cities which can benefit from economies of scale, and can offer improved products at competitive prices. Commenting on this transition, Anderson (1982) identifies three phases of industrial growth: one in which the bulk of manufacturing takes place within the rural household; a second in which this is largely displaced by the emergence of small workshops and factories in cities and towns throughout the country; and a third in which production increasingly shifts to large-scale plants usually located in bigger cities.

2.31 This transition in the structure of nonfarm activities is reflected in studies by Ho (1982) and Harriss (1987). Ho reports that in Taiwan and especially Korea, economic development has been accompanied by an overall shift in industrial activity from rural to urban areas, while in rural areas themselves, non-factory production has declined and larger plants have become more important. Based on a study of North Arcot district in India, Harriss finds that contrary to Mellor's thesis, industry is not for the most part rurally located, small-scale, labor intensive, nor based on local raw materials and final markets. She found instead clear evidence that the town's economy is becoming increasingly dominated by a handful of rapidly growing larger firms. In 1973 the top docile of firms by gross output comprising silk factories, rice mills,
lowest 50 percent of firms. Ten years later this ratio had risen to a staggering 66 times the lowest 50 percent. In the same period, the average size of the wage labor force in rice mills had trebled, and in silk factories had quadrupled.

C. Demand from International Markets

2.32 For most countries, especially smaller ones, international trade is not so much an option as a necessity. Few are self-sufficient in raw materials, many lack key commodities, and all can benefit from the exchange of goods. Furthermore, the restricted size of many domestic markets means that economies of scale are insufficient to enable domestic manufacturers to compete with larger-scale producers elsewhere. To earn the foreign exchange for purchasing imports, to capture economies of scale for manufacturers, and to raise incomes and the purchasing power of consumers, countries participate in international trade.

2.33 In order for its exports to be competitive in world markets, the producing country has an incentive to avoid overvaluing its currency. This is not the case where a country is pursuing a strategy for industrialization based on import substitution, where there is often a tendency for exchange rates to be maintained above the real rate in order to reduce the costs of imports. Overvaluation means lower returns in domestic currency to producers of exports of both agricultural produce and manufactured goods, and thus less incentive to make the investments necessary to raise productivity and output.

Agricultural Production for Exports

2.34 Trade between developing countries and industrialized countries in agricultural produce has undergone a major reversal during the past 20 years. Whereas in the early 1960s, developing countries accounted for 63 percent of world exports of agricultural commodities, by the early 1980s this share had fallen to less than 50 percent. Over the same period, exports from industrialized market economies rose from 30 percent to 48 percent. At the same time, the trade surplus in food, which developing countries enjoyed up until the late 1970s, turned into a deficit. (World Bank 1986).

2.35 Among the numerous factors accounting for this reversal, three stand out. First, in order to support and protect their own agricultural sectors, industrial countries have steadily increased the level of subsidies to producers and the number of restrictions on trade, which together have effectively curtailed demand for imports from developing countries. Second, in an attempt to promote the growth of industry in developing countries, governments have often adopted policies that have simultaneously had the effect of inhibiting the growth of agriculture. Third, partly as a result of this, production has failed to keep pace with the increase in domestic demand in many developing countries, particularly in Africa, due to the rapid increase in total population and especially the urban population, as people move from rural areas to cities. (Lofchie 1986.)

2.36 The deterioration in the terms of trade for agriculture associated with government policies in many developing countries, especially in Africa, coupled with increased restrictions facing exporters of agricultural produce, has meant
that producers have been slow to adopt new technology, neglecting opportunities to reduce production costs and prices, and have thus lost shares in export markets. Instead, there have been large shifts in production out of higher value export crops to food crops for local markets and home consumption in several African countries, notably Tanzania, Malawi, Nigeria, Cameroon and Senegal. (Lele & Mellor 1988). This shift is also reflected in Cour's (1988, Annex 2, p. 15) analysis of data from Nigeria, South Africa, Burkina Fassa, and the Ivory Coast. This shows that with exception of the Ivory Coast, the value per farmer of nonfood exports is small compared to food crops, and is decreasing.

2.37 In many cases, the potential impact of agricultural export activity on the local economy is less than it might be. In part, this is due to overvalued exchange rates, which translates into reduced domestic currency earnings for producers, and in part to restrictive government policies for the import of farm inputs and the export of agricultural outputs, which lead to inefficiencies and loss of income for producers and traders. The impact of these and other government policies on rural-urban exchange are discussed in more detail in Chapter VI.

2.38 In addition, there are numerous instances where production for export takes place as in an enclave, bringing few benefits to the local population. In the Kismayo region of Somalia, for example, local benefits accruing from the production of bananas would be far greater, were it not for the monopoly powers reserved to a parastatal marketing agency, which has exclusive rights for supplying inputs to the banana plantations and purchasing their produce for export (Evans et al 1988). What is true for agriculture is also sometimes even more true for mining, as for example in the Potosi region of Bolivia.

2.39 As Brockett (1987) argues, while agricultural modernization and export expansion are often justified as fundamental to the developmental process, it can also result in declining access for rural people to land and food. In Honduras, as large scale commercial production for export has spread throughout the countryside, tenant farmers and those without clearly established legal title to their property have found themselves vulnerable to eviction, and often dispossessed of the land they had been cultivating.

2.40 Despite these gloomy forebodings, however, exports of agricultural goods have been a major factor spurring growth in some countries, and particularly the producing regions of those countries, generating substantial local income, which is later recirculated within the local economy, yielding additional jobs and incomes. In the Kismayo case just mentioned, it was the raising and export of livestock, and to a lesser extent the production of bananas, that injected life into an otherwise stagnant local agricultural economy (Evans et al 1988). In the Kutus area of Kenya, the production of coffee for export was clearly the driving force underlying the vigorous local economy, accounting in value terms for almost as much as all other agricultural crops combined (Bendavid-Val et al 1988).

2.41 Prospects for the future growth of agricultural exports from developing countries are mixed. To a large extent, this depends on the willingness of industrial countries to remove trade restrictions obstructing the entry of farm goods from developing countries. But it also depends in part on the extent to which the governments of developing countries undertake reforms to restore more
favorable terms of trade for agriculture, and to liberalize markets, which would help to spur increases in productivity and output. (See Chapter VI.)

**Manufacturing Production for Exports**

2.42 Manufacturing production for the export market may affect rural-urban exchange in several ways. The effect takes place through employment growth, through location of industry, and through terms of trade with agriculture.

2.43 First, manufacturing for the export market is likely to generate more jobs in the modern sector than import substitution. To the extent that it depends on world demand, the process of industrialization through exports is not constrained by the limits of a small domestic market as import-substitution might be. Since production is for export, and since the comparative advantage of developing countries is often their cheap labor, the creation of new jobs in modern manufacturing is likely to require less scarce resources of foreign exchange and capital. Faced with greater opportunities and fewer constraints, non-traditional manufacturing of exports can be expected to grow faster, and to absorb significantly more labor, than import substitution (Liebenstein 1978).

2.44 Second, manufacturing for export under certain circumstances may lead to a more dispersed pattern of industrial location. Since import substituting industries are oriented to domestic markets, they tend to locate close to those markets, namely the largest city, thus accentuating urban concentration. But to the extent that export manufacturing makes use of local raw materials, for example in the processing of minerals and agricultural produce, these activities tend to locate close to the source of raw materials, that is, in smaller towns and the countryside. Alternatively, as in the case of countries like Japan and Korea which rely on imports of many raw materials, manufacturing tends to locate close to major ports. Third, more rapid employment growth, coupled with the more dispersed location of export oriented industries, suggests that migration associated with such a development strategy is likely to be less concentrated, and directed to a wider range of cities, towns, and even rural areas.

2.45 Since manufacturing for exports is rarely the primary objective of industrial policy in developing countries, there are few opportunities for exploring these propositions, and two of the examples--Singapore and Hong Kong--are city states without an extensive hinterland of smaller towns and rural areas. Nevertheless, a comparative analysis of rural industry in South Korea and Taiwan by Ho (1982) provides some interesting pointers. Ho finds that although as the economy develops industrial activity has shifted from rural to urban areas, the number of workers in rural industry has increased steadily in both countries, especially in Taiwan, where the spatial dispersion of industry has been more pronounced. Ho attributes this more dispersed pattern of industrial growth in Taiwan to three main factors: the early development of a highly productive and commercialized agriculture; the development of a diversified agro-industry; and the provision of basic infrastructure in rural areas, including roads, railways and electrification.

2.46 A development strategy based on manufacturing for export markets may also indirectly assist agriculture. To the extent that an export oriented development strategy is accompanied by an exchange rate policy that avoids overvalued currency, then one major potential source of adverse terms of trade
commonly affecting agriculture is removed. Further, export oriented manufacturing may also spur demand for inputs from agriculture, for example for food products, textiles, clothing and leather goods. But ultimately, the potential benefits to agriculture and the rural sector depend on the extent to which the country possesses relevant natural resources, and engages in exports of farm produce and processed agricultural goods.

D. Implications for Rural-Urban Linkages

Changes in the Source of Primary Demand

2.47 Demand spurs exchange between producer and consumer, and shapes the links between rural and urban areas. Changes in demand cause old activities to decline, but create new opportunities for growth. Changes in the composition of local demand arise from shifts in consumer preferences associated with rising incomes. Changes in domestic demand spring from the growth of urban populations and the proliferation of interindustry linkages. Changes in international demand reflect advances in technology and fluctuations in restrictions on trade and access to foreign markets. All of these changes in different ways impact the nature of rural-urban exchange, and the evolution of linkages between rural and urban areas within a region and between towns and cities within a country.

2.48 Strong demand enhances existing links and forges new ones, witness the impact of demand for oil on Alaska in the past couple of decades. On the other hand, strengthening linkages by itself rarely generates an increase in demand, unless it somehow creates new consumer appetites. Stronger links, however, may unlock resources, and improve a region’s capacity to take advantage of latent demand, and to expand markets for its goods, a point which is taken up later.

Shifts in Final and Intermediate Demand

2.49 As development advances, the composition of demand shifts from final demand for consumer goods to intermediate demand for production inputs. This reflects the increasing importance of inter-industry linkages as manufacturing becomes more complex, entailing several distinct stages in the production process. On the one hand, as productivity rises, agriculture requires a wider range of industrial inputs, while on the other hand industry makes increasing use of inputs from agriculture. (Jones 1986).

2.50 The greater use of inputs in agriculture is reflected in data from Cour (1988) for Nigeria, South Africa, Burkina Fassa, and the Ivory Coast. This shows not only that gross monetary income per farmer is higher where the urban market is more developed, that is, where the population is more urbanized, but also that as per capita incomes rises, the share of agricultural inputs in total agricultural outputs also rises. (See Table 2.3.) In other words demand for agricultural inputs is income elastic.

2.51 Other indications of the increasing prominence of inter-industry linkages are provided by Sharma (1985) and Harris (1987). Using input-output tables for the Kenyan economy in 1967, 1971 and 1976, Sharma finds that agriculture is becoming increasingly dependent on manufacturing for the use of technical inputs in the production process. Similarly, in her analysis of trade
TABLE 2.3: PER CAPITA FARM INCOME AND INTERMEDIATE DEMAND FOR AGRICULTURAL INPUTS (Current US$/farmer).

<table>
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<tr>
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<tbody>
<tr>
<td>Per capita farm income</td>
<td>28</td>
<td>47</td>
<td>264</td>
<td>335</td>
</tr>
<tr>
<td>Per capita farm spending on inputs</td>
<td>7</td>
<td>15</td>
<td>93</td>
<td>81</td>
</tr>
<tr>
<td>Share of agricultural inputs in total agricultural output (%)</td>
<td>.11</td>
<td>.1</td>
<td>.24</td>
<td>.19</td>
</tr>
<tr>
<td>Cost of inputs in relation to gross income (%)</td>
<td>25</td>
<td>33</td>
<td>35</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Cour (1988), Annex 2, Table 11, p 15.

technical inputs in the production process. Similarly, in her analysis of trade linkages in Arni, Harriss (1987b) finds that production activities are more important than consumption activities, in terms of the number of establishments, the volume of capital invested, and the number of jobs created.

Changes in the Direction of Commodity Flows

2.52 With changes in demand, come changes in the direction of commodity flows. As we have seen, at early stages of development, the rural sector is dominant. During this phase, the Mellow (1976) scenario largely holds true. Demand is indigenous, coming primarily from rural households, mainly for food, and to a lesser extent for nonfood goods and services. At this stage, most nonfarm jobs are distributed in rural areas and smaller towns close to potential consumers. In such cases, the most active linkages are those within the region. Commodity flows are mainly from farm to local markets, and back to local consumers, mostly in rural areas.

2.53 Later, as the urban sector starts to predominate, demand increasingly comes from national markets. Rising incomes coupled with the growth of the urban population gives rise to demand for an expanding range of goods and services, including housing, transportation, education, health, and entertainment. New producers and employment associated with these demands are located in or close to major urban centers, especially those activities which require economies of scale, such as textiles and clothing, or agglomeration economies such as newspapers, television, hospitals, and financial services. This gives rise to an increasingly complex sequence of flows between urban and rural areas, and between one urban area and another.
2.54 As the primary source of demand shifts from local to national markets, and from final to intermediate goods, the direction of commodity flows through market towns also changes. Such changes are illustrated by Harriss (1988) in her study of Arni. While food accounted for 67 percent of commodity flows in 1973, this had dropped to 44 percent ten years later. At the same time, the origin of foodgrains had become more geographically diversified, as was also the case for industrial consumer goods. In 1973 the local region around Arni provided 43 percent of purchased raw materials and intermediate inputs for Arni enterprises, but by 1983 this had dropped to 25 percent, as these inputs were being acquired from more distant suppliers in Madras, Bombay, and other cities further afield.

Changes in the Role of Towns

2.55 The shifts in demand and changes in the direction of commodity flows indicate that the roles of urban centers are also changing, especially small towns. During the early stages of development, small towns are essentially retail centers supplying food and consumer goods to the surrounding population. But as the structure of demand shifts, small towns play increasingly important roles as wholesale centers. On the one hand, they may act as bulking points for agricultural produce, enabling traders to collect it cost effectively, before shipping it to major urban centers of consumption (Alexander 1986). On the other hand, they may also function as centers for the breaking-of-bulk of manufactured items, in the distribution chain from producer or importer, to wholesaler, retailer, and consumer. But to perform these functions effectively, smaller towns need to be connected both to larger towns in the national settlement system, as well as to villages and rural areas in their hinterland (Evans 1989b).

2.56 Initially, as indicated by Ho (1982), small towns are also the main locus of nonfarm production. But as development advances, larger towns and cities assume primary importance, as industry shifts to larger centers of consumption seeking economies of scale and agglomeration economies. Such a trend is documented by Berry (1987), who concludes from an analysis in Colombia, that manufacturing evolves from small-scale artisan workshops in rural areas to somewhat larger production units in towns and small cities. He adds that the main loci of this growth were not in centers where artisan industry had earlier flourished, but in cities which offered capital, entrepreneurs and markets.
III. HOUSEHOLDS AS CONSUMERS

3.1 Given the importance of demand as the engine driving growth in a region, and the prominence of final demand in areas where incomes are low, it is instructive to examine the composition of household consumer spending. Of particular interest are the changes in spending that occur as incomes rise, and the differences in spending patterns between rural and urban households. An understanding of these changes and differences, and the factors that account for them, helps to explain the underlying forces that shape demand, and drive the exchange of goods and services between urban and rural areas.

3.2 The pioneering ideas in this context were put forward by Mellor (1976) who stated, with respect to the downstream linkages from agriculture, that rural households' consumption links to the non-farm economy are the prime source of indirect growth effects within a local economy. He argued that these consumption linkages take the form of labor intensive goods and services produced within rural areas for local household consumption. This suggests that agricultural income contains the potential to significantly enhance rural non-farm employment, which in turn benefits the poor and thereby enlarges the market for agricultural goods. The argument has attracted much attention, including some disagreement, though less empirical investigation.

A. Demand for Consumption Goods

Food-Nonfood shares

3.3 Virtually all studies in less developed countries report that food represents the largest share of household spending, often comprising a half or more of the total. In a comparative study between the Muda region in Malaysia and the Gusau region in Nigeria, Hazell and Roell (1983) found that food, alcohol and tobacco were by far the most important commodities in the total expenditures of average households in both regions, accounting for 66 percent of the total in Muda and 80 percent in Gusau. In Muda, 40 percent of the average household's total budget outlay on foods was spent on cereals and cereal products, while the comparable figure for Gusau was 62 percent. In a study of three rural communities in Uganda, Massell & Parnes (1969) found that food absorbed between 52 percent and 70 percent of all spending, and in Pakistan Malik et al (1987) report figures of 51 percent for rural areas and 44 percent in urban areas.

3.4 Many studies find that the food share of total spending falls as incomes rise, in line with expectations from Engel's law. In the Punjab in India, for example, Johar and Sandhu (1982) report that in both urban and rural areas the expenditure elasticities of demand for nonfood items are almost double those for food. Also in India, Mellor (1976, p. 164) found that in rural areas marginal spending on foodgrains drops from 59 percent to 2 percent as incomes rise, marginal spending on nonfoodgrain items (like milk and meat) remains level at a little over 30 percent once above the poorest groups, and marginal spending on nonagricultural commodities increases steadily as incomes rise, from 21 percent to 67 percent. Based on a time-series analysis of household expenditures in Pakistan between 1963 and 1985, Malik et al (1987) also claim to verify
Engel's law, pointing out that marginal spending on food and drinks declined from 0.35 in 1966-67 to 0.28 in 1984-85. The implication is that household incomes had risen in the interim, though the decline in marginal spending on food may also reflect changes in the relative prices of food and nonfood items during that period.

3.5 There is substantial evidence, however, to suggest that Engel's law only comes into effect above a threshold income level. In the Gusau region of Nigeria, Hazell & Roell (1983) found that the average budget share for food alcohol and tobacco dropped only slightly from 85 percent in the poorest decile to just under 80 percent for the wealthiest decile, and that there was no significant decline in the marginal budget share for these items. They suggest that this may be because most of the villages in the region are isolated from urban areas, and that there is simply little else to buy, other than food, without a long and arduous journey to the nearest town. In the Dominican Republic, Yen & Roe (1986) found that it is only among high-income rural and urban households that total expenditure elasticity for food was less than unity. And, in the Kutus area of Kenya, it was found that spending on food fluctuated from 41 percent to 53 percent among income groups, but that it was about the same for both the top and bottom quintiles. The authors of the Kutus study argue that this is due primarily to the transition from subsistence to commercial farming, and the parallel substitution of home-produced items with purchased food. (Bendavid-Val et al, 1988.)

3.6 Available data makes it clear that in most developing countries, food absorbs much the largest share of the household budget, often more than half. Only among households in urban areas, and with higher incomes, does the income elasticity for food drop below unity, and the food share fall below half. Even in South Korea, where the economy has grown so rapidly, the average food share among rural households was still 46 percent in 1976, having fallen from around 60 percent in the early 1960s (Ro et al 1981). This clearly implies that agriculture and the production and distribution of food will remain the primary economic activity of the workforce in most developing countries for a considerable time to come.

Shares Within Food Group

3.7 A further reason why the Engel's effect may only be evident for food expenditures above a threshold income level is that as incomes rise, household tastes change, shifting from traditional staples to higher value foods. In their study of household expenditures in Uganda, Massell & Parnes (1969) found that as incomes rise the household shifts consumption from one type of food (root-tubers) to another more expensive type, such as milk and meat. They calculate that expenditure elasticities are greater than unity for milk, tobacco-beverages, and meat, and are negative for roots and tubers (Table 3.1). Similarly, in their comparison of household expenditure patterns in the Muda region of Malaysia and the Gusau region of Nigeria, Hazell & Roell (1983 pp. 30-31, Table 7) also report that expenditure elasticities were in both cases greater than unity for milk and meat products (fresh beef, other fresh meat, fresh and soured milk, processed milk, and butter and margarine). In both regions there is also a shift from staples--rice in Muda, and sorghum and millet in Gusau--to more expensive items--noodles in Muda, and rice in Gusau.
3.8 The shift in consumer demand for higher value food products as incomes rise creates opportunities for farmers to raise productivity and in some cases results in increased employment in agriculture. This absorption of rural labor is documented in Kenya by Livingstone (1981 p. 5), who calls it the 'sponge effect', and attributes it among other things to the intensification of agriculture arising from the switch to cash crops like tea and coffee for export markets, and increased production of vegetables, milk, and meat for higher income households in urban areas.

Shares Within Non-Food

3.9 A comparison of spending on nonfood items is harder to make, since the definition and coverage of "nonfood" items varies widely from one study to another, as do relative prices. Another difficulty is that social and religious customs also vary greatly from one society to another, and this affects the amount spent on such items as community obligations and rituals.

3.10 Most studies indicate that the chief items of nonfood expenditures are clothing and footwear, typically in the range of 6-7 percent of total expenditures, housing (4-11 percent), and expendabes (4-11 percent). However, there are sometimes substantial variations from one region to another. In the Kutus area of Kenya, households were found to spend on average 19 percent on health and education services, due mainly to larger-than-usual family sizes and a national propensity for schooling (Bendavid-Val et al 1988), while in the Muda region of Malaysia households are reported to spend as much as 11.5 percent on social obligations (Hazell & Roell 1983).

3.11 Generally speaking, writers report that expenditure elasticities for most nonfood categories are greater than unity, although there is considerable variation between studies and among individual items. Elasticities tend to be highest for consumer durables, housing, and services, particularly education. Clothing is variously classified as a luxury good (with an elasticity of demand greater than unity) and as a necessity (between 0.0 and 1.0). (See Table 3.1.)

3.12 Changes in consumption patterns as household income levels rise also appear to vary substantially from one region to another. In their analysis of marginal budget shares, Hazell & Roell (1983) found that in the Gusau region in Nigeria, there were no significant changes in spending for any nonfood category between the poor and the wealthier households. On the other hand, in the Muda region in Malaysia they found that marginal budget shares fall slightly for expendables, remain pretty much constant for clothing, and rise steadily for transport and personal services. They climb sharply for health and education, and social obligations, and most dramatically for housing—from 2.5 percent in the first decile to 20 percent in the 10th decile—and durables—from--1.0 percent to 13 percent. Similar patterns are echoed in the Kutus study, which found that shares for health and education rose from 15 percent among lower income households to 24 percent among upper income ones, while the share for social obligations increased from 3 percent to 9 percent (Bendavid-Val et al 1988).
### TABLE 3.1: ESTIMATES OF EXPENDITURE ELASTICITIES FOR FOOD AND NONFOOD ITEMS

<table>
<thead>
<tr>
<th>Item</th>
<th>Massell &amp; Parnes</th>
<th>Johar &amp; Sandhu</th>
<th>Hazell &amp; Roell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uganda</td>
<td>Kenya</td>
<td>Punjab</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foodgrains</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td>2.94</td>
<td>2.34</td>
<td>1.07</td>
</tr>
<tr>
<td>Meat</td>
<td>1.30</td>
<td>1.20</td>
<td>.56</td>
</tr>
<tr>
<td>Cereals</td>
<td>.97</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>.96</td>
<td>1.06</td>
<td>.57</td>
</tr>
<tr>
<td>Pulse</td>
<td>.76</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>Vegetables-fruit</td>
<td>.59</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>Roots-tubers</td>
<td>-.18</td>
<td>.53</td>
<td></td>
</tr>
<tr>
<td>Beverages</td>
<td></td>
<td></td>
<td>.85</td>
</tr>
<tr>
<td>Edible oils</td>
<td></td>
<td></td>
<td>.49</td>
</tr>
<tr>
<td><strong>Nonfood</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>1.74</td>
<td>1.08</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>1.51</td>
<td>.69</td>
<td>.48</td>
</tr>
<tr>
<td>Tobacco</td>
<td>1.50</td>
<td>1.12</td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td>-.12</td>
<td>.89</td>
<td>1.94</td>
</tr>
<tr>
<td>Housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durables</td>
<td></td>
<td></td>
<td>2.01</td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education and health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social obligations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Note: includes alcohol and tobacco.

**SOURCES:**
1. Hazell and Roell (1983), Table 6, p. 28; table 7, p. 30.
2. Johar and Sandhu (1982), Table 2, p. 74.

B. **Rural-Urban Differences in Consumption Expenditures**

3.13 Several factors contribute to significant variations in expenditure patterns of rural and urban households. First, there are often substantial differences in the relative prices of food and nonfood items. In his study of income and poverty in Brazil, Vinod (1987) estimated that the cost of a basket of food goods in metropolitan areas was about 31 percent higher than the national average, while the cost in rural area was about 22 percent lower. Similarly, in a study of consumption patterns in India, Mellor noted that foodgrains were 19 percent cheaper and urban goods 34 percent more expensive in rural areas.
3.14 Housing, too, is almost universally more expensive in the city than in rural areas. In a comparison of average rural and urban family budgets based on data from the Household Income and Expenditure Survey of Pakistan, Malik et al (1987) indicate that the housing share of total spending for urban families is more than twice as much as those in rural areas, 17 percent compared to 8 percent, and the marginal budget share was three times higher, 22 percent compared to 7 percent.

3.15 Second, while urban household expenditures are almost all in the form of cash outlays, those for rural households also include a substantial part in the form of subsistence consumption for which no payments are recorded. This subsistence element of total household expenditures was estimated to have been in the order of 40 percent among rural households in Kenya and Uganda (Massel and Parnes 1969) and as high as 67 percent in Malawi (Humphrey and Oxley 1976).

3.16 Third, there are differences in needs associated with urban and rural life. In cities, the daily trip from home to place of work means transportation expenses are usually much larger than in rural areas. In Malawi, for example, the expenditure elasticity for transport in urban areas was estimated to be 1.83, whereas in rural areas it was only 1.16. In the country, on the other hand, there are often greater social obligations which require contributions to relatives, religious events, or community activities. Again, in Malawi, the expenditure elasticity for gifts and marriage settlement was found to be 1.70 in the city, but over 2.00 in rural areas (Humphrey and Oxley 1976).

3.17 Other differences arise from regional variations in natural resource endowments, physical and climatic conditions, tastes and consumer preferences. From an estimate of average household expenditures on selected items by herders, small farmers and residents of small towns and large towns in the Kismayo region of Somalia, Evans et al (1988) show that shares for sugar and maize drop sharply from rural to urban households, while shares for wheat rise. Large town residents spend relatively less on cooking oils than farmers, but more on milk products. Milk is the single largest item consumed by herder households, most of it produced by themselves, although in the dry season when production is much reduced, they substitute fresh milk with extensive purchases of imported powdered milk.

3.18 Variations in expenditure elasticities between rural and urban areas may also reflect the availability of particular items, and the amount already being consumed. Among rural households in Malawi, for example, elasticities for clothing, furniture, and education were all higher than in urban areas, but that for all food was lower. (See Table 3.2.)
TABLE 3.2: ESTIMATES OF EXPENDITURE ELASTICITIES FOR RURAL AND URBAN HOUSEHOLDS

<table>
<thead>
<tr>
<th>Item</th>
<th>Johar &amp; Sandhu</th>
<th>Massell &amp; Parnes</th>
<th>Humphrey &amp; Oxley</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indian Punjab</td>
<td>Uganda</td>
<td>Kenya</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>Rural</td>
<td>Kenya</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>Food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foodgrains</td>
<td>.50</td>
<td>.39</td>
<td>.28</td>
</tr>
<tr>
<td>Milk</td>
<td>1.07</td>
<td>.98</td>
<td>2.13</td>
</tr>
<tr>
<td>Edible oils</td>
<td>.49</td>
<td>.43</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>.57</td>
<td>.59</td>
<td>.44</td>
</tr>
<tr>
<td>Beverages and</td>
<td>.85</td>
<td>1.47</td>
<td></td>
</tr>
<tr>
<td>refreshments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat</td>
<td></td>
<td>.92</td>
<td>.91</td>
</tr>
<tr>
<td>Vegetables-fruit</td>
<td></td>
<td>.43</td>
<td>.09</td>
</tr>
<tr>
<td>Cereals</td>
<td></td>
<td>-.04</td>
<td>.14</td>
</tr>
<tr>
<td>Pulses</td>
<td></td>
<td>-.07</td>
<td>.06</td>
</tr>
<tr>
<td>Flour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bread</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starches/roots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food (no details)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonfood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td>1.94</td>
<td>1.66</td>
<td>.93</td>
</tr>
<tr>
<td>Fuel and Light</td>
<td>.48</td>
<td>.66</td>
<td>.48</td>
</tr>
<tr>
<td>Durables</td>
<td>2.01</td>
<td>2.48</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social obligations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm buildings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other livestock</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCES:
1. Humphrey and Oxley (1976), Tables 1 and 2, pp. 256-257, 260-261.
2. Johar and Sandhu (1982), Table 2, p. 74.
3. Malik, Abbas and Ghani (1987), Table 1, p. 674.
C. Factor Intensities of Consumption Patterns

3.19 Consumption spending by rural households can lead to the growth of local employment in both agriculture and nonfarm activities. The extent to which consumption generates local employment depends on two things: labor intensity, or the amount of labor required to produce a unit of the item consumed; and the proportion of spending that goes to locally produced items.

3.20 A more critical question concerns how rising rural income affects demand for local products, and labor-intensive commodities. Two initial studies conducted by Soligo (1973) in Pakistan and Sunman in Turkey (1974) provide strong evidence that as incomes rise, households tend to consume products that require more of the scarce factors, capital and foreign exchange, and less of the abundant factor, labor. A later study by King & Byerlee (1978) in Sierra Leone, however, arrived at somewhat different results. Using data from a national rural household budget survey conducted between 1974 and 1975, they analyzed the economic linkages associated with rural consumption expenditures by households at different income levels.

3.21 Their results showed that increases in rural incomes are largely spent on labor-intensive commodities; 84 percent of all marginal expenditures are for goods produced in small-scale, labor-intensive sectors, particularly agriculture. They found that as incomes rise the labor requirements per unit of expenditure at the margin fall, indicating that lower income groups consume a more labor intensive bundle of commodities. Contrary to expectations, they also found that capital requirements fall as incomes rise. This indicates, as the authors explain, that higher income households are substituting imported goods for capital intensive domestic goods, or one scarce factor with another, rather than relatively abundant labor.

3.22 Compared to the earlier studies, however, the changes in factor intensities by income level were small. Marginal labor requirements were found to decrease over the range of sample incomes by 23 percent, while capital requirements fell by 8 percent, and foreign exchange requirements increased by 11 percent. This compares to decreases in marginal labor intensities of 49 percent in Turkey and 56 percent in Pakistan, and increases in marginal capital intensities of 27 percent and 82 percent.

3.23 As King & Byerlee (1978) point out, this indicates that development objectives of raising output and employment, and improving income distribution, can be mutually reinforcing. The more equitable distribution of income should lead to little change in combined marginal requirements for the scarce factors of capital and foreign exchange, but a clear increase in employment, which in turn furthers the goal of improved income distribution.

D. Demand for Home, Local, National, and Imported Goods

3.24 The extent to which consumption expenditures associated with rising rural incomes can spur the growth of local employment is also determined by the proportion of spending that goes to locally produced items. Proponents of a rural-based development strategy claim that spending by rural households benefits
local producers first and foremost (e.g., Mellor 1976, Hazell & Roell 1983). There is substantial evidence to support this view, but it is not uncontested.

3.25 In the same study, just mentioned, of rural consumption patterns in Sierra Leone, King & Byerlee (1978) found strong evidence that rural spending favors locally produced goods and services. They classified commodities according to the place of production, and determined that the expenditure elasticities were 1.0 for rural products, 1.62 for the products of small towns, but only 0.39 for the products of larger cities. This contrasts with the findings of Hymen and Resnick (1969), who had classified rural non-farm products as inferior. (See Box 3.1.)

3.26 Similar results are reported more recently in studies of Kutus town and its hinterland in Kenya (Bendavid-Val et al 1988) and the Kismayo region in Somalia (Evans et al 1988). (See Table 3.3.) In the Kutus case, the authors estimated that close to 60 percent of final demand from rural households accrued to the nearby small town of Kutus itself or its immediate rural hinterland, and that this proportion held more or less constant across all income levels. In the Kismayo case, it was estimated that 54 percent of consumption spending by herders accrued to the region, 62 percent of consumption by farm households, and 70 percent of consumption by households in both small and larger towns. The authors explain the variation as due in part to shifts in consumer preferences, and in part to what the household produces itself. Herders are big consumers of maize, sugar and cloth, most of which comes from outside the region. As households become settled and more urban, consumer preferences shift away from sugar and maize to wheat, meat, fruit, and vegetables: apart from wheat, these are largely produced locally. Two other factors are identified as influencing outcomes: the location where people do their shopping, and the nature of the marketing and distribution networks associated with the major consumption items.

3.27 Further evidence on the propensity of rural households to consume locally produced goods comes from Hazell & Roell (1983) in their comparative analysis of rural household spending in the Muda and Gusau regions. In Muda, a similar picture emerges. Marginal budget shares for food decline as incomes rise, especially for home produced items, but more slowly for those produced and purchased locally. The marginal shares for nonfood rise, but they are higher for locally produced items than for imports (defined here as goods from outside the study region), and rise much more quickly, from 18 percent for the poorest decile, to 53 percent for the wealthiest decile. An equally rapid rise is also indicated for the marginal shares of spending for nontradables, (i.e., those goods and services that can only be supplied locally), particularly social obligations and housing.

3.28 In Gusau, however, the situation is a somewhat different. The marginal budget shares for food decline, but much more slowly. While the shares for home produced items fall from 59 percent among the first or poorest decile to 44 percent for the tenth, they even rise for locally produced commodities from 14 percent to 25 percent. Shares for nonfood, however, remain virtually flat at 11 percent for locally produced items, rising slightly for imports from 11 percent to 13 percent. The shares for nontradables also increase, but only
BOX 3.1: RURAL CONSUMPTION PROPENSITIES OF COMMODITIES BY PLACE OF ORIGIN

In their Sierra Leone study, King & Byerlee (1978) distinguish between five categories of goods and services: subsistence, rural non-subsistence, small urban, large urban, and imported. They found that the marginal propensity to consume subsistence goods drops dramatically as incomes increase, while that for rurally produced goods falls only slightly. A major proportion of rural income is spent on commodities produced in rural areas, and as incomes rise, increased cash purchases are directed towards rural nonfood products particularly service and ceremonial expenditures. There is little demand for goods and services produced in the largest urban area (Freetown), such as beer, soft drinks, cigarettes, biscuits, suitcases and other items oriented towards higher-income urban consumers. But there is a tendency for higher income households to allocate an increasing proportion of their incremental incomes to imported goods - such as cloth, shoes, soap and cooking ware - though the effect is not large.

Marginal Propensity to Consume by Income Class for Commodities Grouped by Origin.

<table>
<thead>
<tr>
<th>Origin Classification</th>
<th>Mean Expenditure</th>
<th>Income Class Deciles</th>
<th>Bottom</th>
<th>2nd/ 3rd</th>
<th>4th/ 5th</th>
<th>6th/ 7th</th>
<th>8th/ 9th</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>All rural products</td>
<td></td>
<td></td>
<td>.78</td>
<td>.81</td>
<td>.80</td>
<td>.79</td>
<td>.78</td>
<td>.77</td>
</tr>
<tr>
<td>Rural food products</td>
<td>.66</td>
<td></td>
<td>.45</td>
<td>.68</td>
<td>.59</td>
<td>.50</td>
<td>.44</td>
<td>.37</td>
</tr>
<tr>
<td>subsistence food</td>
<td>.22</td>
<td></td>
<td>.12</td>
<td>.02</td>
<td>.04</td>
<td>.09</td>
<td>.13</td>
<td>.17</td>
</tr>
<tr>
<td>purchased food</td>
<td>.01</td>
<td></td>
<td>.11</td>
<td>.04</td>
<td>.02</td>
<td>.08</td>
<td>.12</td>
<td>.16</td>
</tr>
<tr>
<td>Rural nonfood products</td>
<td></td>
<td></td>
<td>.06</td>
<td>.03</td>
<td>.04</td>
<td>.05</td>
<td>.06</td>
<td>.06</td>
</tr>
<tr>
<td>Large-urban products</td>
<td>.02</td>
<td></td>
<td>.10</td>
<td>.10</td>
<td>.10</td>
<td>.10</td>
<td>.10</td>
<td>.10</td>
</tr>
<tr>
<td>Imported products</td>
<td>.10</td>
<td></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: King & Byerlee (1978), table 4, p 204.
by 9 percent from first to tenth decile, compared to 31 percent in Muda. (See Table 3.3.)

3.29 Somewhat contrary evidence of rural demand for locally produced goods comes from Hunt (1983 p. 14 Table 3). She points out that in the rural markets for consumer and small scale producer goods, there is often fierce competition between part-time household enterprises, small-scale informal sector enterprises, large scale rural processing plants and urban-based manufacturing firms. She cites figures from Carlsen (1980), who indicates that while income elasticities of demand for locally produced goods are mostly positive, none approach unity, and those for goods imported from outside the area tend to be higher. Some items, especially products of part-time enterprises, may even be inferior goods, where demand declines as incomes rise, for example gourds used as containers being replaced by aluminum or plastic products. For other items, however, demand for locally made goods is stronger than for imports, these being furniture, bags and suitcases, farm implements, and shoes.

3.30 In a study of two backward regions in Malaysia, Salih (1979) goes even further, claiming that the increase in rural purchasing power and effective demand primarily benefits the regional center, rather than local secondary centers and small towns. However, this claim does not appear to be supported by empirical observation.
### TABLE 3.3: DEMAND FOR LOCAL, NATIONAL AND IMPORTED CONSUMER ITEMS

**Kismayo region, Somalia (1988)**  
Average budget shares

<table>
<thead>
<tr>
<th>Household Type</th>
<th>Herders</th>
<th>Rural areas</th>
<th>Small town</th>
<th>Large town</th>
<th>All region</th>
<th>Outside region</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large urban</td>
<td>19.0</td>
<td>6.0</td>
<td>13.0</td>
<td>32.0</td>
<td>70.0</td>
<td>30.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Small urban</td>
<td>20.0</td>
<td>6.0</td>
<td>32.0</td>
<td>11.0</td>
<td>70.0</td>
<td>30.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Farm/rural</td>
<td>11.0</td>
<td>13.0</td>
<td>28.0</td>
<td>10.0</td>
<td>62.0</td>
<td>38.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Herder</td>
<td>2.0</td>
<td>12.0</td>
<td>24.0</td>
<td>17.0</td>
<td>54.0</td>
<td>46.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Kutus region, Kenya (1988)**  
Average budget shares

<table>
<thead>
<tr>
<th>Income level</th>
<th>Rural area</th>
<th>Kutus town</th>
<th>Outside region</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>31.5</td>
<td>25.6</td>
<td>57.1</td>
<td>42.9</td>
</tr>
<tr>
<td>Lower middle</td>
<td>33.5</td>
<td>24.1</td>
<td>57.6</td>
<td>42.4</td>
</tr>
<tr>
<td>Middle</td>
<td>34.2</td>
<td>23.9</td>
<td>58.1</td>
<td>41.9</td>
</tr>
<tr>
<td>Upper middle</td>
<td>33.4</td>
<td>24.8</td>
<td>58.2</td>
<td>41.8</td>
</tr>
<tr>
<td>Upper</td>
<td>36.0</td>
<td>23.3</td>
<td>59.3</td>
<td>40.7</td>
</tr>
<tr>
<td>All</td>
<td>34.7</td>
<td>24.2</td>
<td>58.9</td>
<td>41.1</td>
</tr>
</tbody>
</table>

**Sierra Leone (1974-75)***  
Marginal budget shares for nonfood items

<table>
<thead>
<tr>
<th>Income deciles</th>
<th>Rural areas</th>
<th>Small towns</th>
<th>Large towns</th>
<th>Imports</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>81.0</td>
<td>3.4</td>
<td>1.9</td>
<td>13.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Second &amp; Third</td>
<td>80.0</td>
<td>4.3</td>
<td>1.9</td>
<td>13.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Fourth &amp; Fifth</td>
<td>79.0</td>
<td>5.1</td>
<td>2.0</td>
<td>14.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Sixth &amp; Seventh</td>
<td>78.0</td>
<td>5.6</td>
<td>2.0</td>
<td>14.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Eighth &amp; Ninth</td>
<td>77.0</td>
<td>6.2</td>
<td>2.1</td>
<td>14.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Highest</td>
<td>76.0</td>
<td>6.9</td>
<td>2.1</td>
<td>14.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Note: The figures for Sierra Leone represent only non-food items.
**TABLE 3.3 (continued)**

**Muda region, Malaysia (1972-73)**

Marginal budget shares

<table>
<thead>
<tr>
<th>Income Deciles</th>
<th>Home food</th>
<th>----- Locally produced Food Nonfood Nontradables</th>
<th>Imported Food</th>
<th>Nonfood</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>22.5</td>
<td>21.4</td>
<td>17.9</td>
<td>23.7</td>
</tr>
<tr>
<td>Second</td>
<td>18.4</td>
<td>19.5</td>
<td>23.5</td>
<td>28.6</td>
</tr>
<tr>
<td>Third</td>
<td>15.4</td>
<td>18.1</td>
<td>27.7</td>
<td>32.4</td>
</tr>
<tr>
<td>Fourth</td>
<td>15.5</td>
<td>17.0</td>
<td>28.7</td>
<td>33.4</td>
</tr>
<tr>
<td>Fifth</td>
<td>13.5</td>
<td>16.1</td>
<td>32.1</td>
<td>36</td>
</tr>
<tr>
<td>Sixth</td>
<td>12.5</td>
<td>15.1</td>
<td>34.2</td>
<td>1</td>
</tr>
<tr>
<td>Seventh</td>
<td>10.2</td>
<td>14.3</td>
<td>37.4</td>
<td>41.1</td>
</tr>
<tr>
<td>Eighth</td>
<td>9.7</td>
<td>13.6</td>
<td>38.9</td>
<td>42.5</td>
</tr>
<tr>
<td>Ninth</td>
<td>5.3</td>
<td>12.8</td>
<td>43</td>
<td>46.2</td>
</tr>
<tr>
<td>Tenth</td>
<td>-1.2</td>
<td>9.9</td>
<td>58</td>
<td>54.9</td>
</tr>
</tbody>
</table>

**Gusau region, Nigeria (1976-77)**

Marginal budget shares

<table>
<thead>
<tr>
<th>Income Deciles</th>
<th>Home food</th>
<th>----- Locally produced Food Nonfood Nontradables</th>
<th>Imported Food</th>
<th>Nonfood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income deciles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>59.2</td>
<td>14.5</td>
<td>11.0</td>
<td>27.0</td>
</tr>
<tr>
<td>Second</td>
<td>53.6</td>
<td>18.6</td>
<td>11.1</td>
<td>29.2</td>
</tr>
<tr>
<td>Third</td>
<td>50.1</td>
<td>21.7</td>
<td>10.6</td>
<td>27.6</td>
</tr>
<tr>
<td>Fourth</td>
<td>50.8</td>
<td>20.6</td>
<td>10.7</td>
<td>29.3</td>
</tr>
<tr>
<td>Fifth</td>
<td>50.0</td>
<td>20.9</td>
<td>11.0</td>
<td>30.5</td>
</tr>
<tr>
<td>Sixth</td>
<td>50.1</td>
<td>20.5</td>
<td>11.2</td>
<td>32.1</td>
</tr>
<tr>
<td>Seventh</td>
<td>46.2</td>
<td>23.6</td>
<td>10.9</td>
<td>30.1</td>
</tr>
<tr>
<td>Eighth</td>
<td>46.6</td>
<td>23.0</td>
<td>11.2</td>
<td>33.1</td>
</tr>
<tr>
<td>Ninth</td>
<td>46.2</td>
<td>23.6</td>
<td>10.9</td>
<td>33.8</td>
</tr>
<tr>
<td>Tenth</td>
<td>43.8</td>
<td>25.2</td>
<td>11.0</td>
<td>35.6</td>
</tr>
</tbody>
</table>

**SOURCES:**
1. Kismayo: Evans et Al. (1988), Table 6.6, p.82.
4. Sierra Leone: King and Byerlee (1978), Table 4, p. 204.
IV. HOUSEHOLDS AS PRODUCERS

4.1 Demand from local, domestic and international sources provides opportunities for growth, but whether this occurs or not depends on the extent to which local producers take advantage of the opportunities. In developing countries, especially where incomes are low and the modern sector is nascent, the bulk of production is undertaken at the level of the household. This is the case both in agriculture as well as in commerce, manufacturing, and most other nonfarm sectors. In order, then, to understand a region's capacity to respond to opportunities for growth, it is necessary to examine the household as a production unit, and the factors that affect the way it allocates resources of labor and capital among alternative revenue-generating activities, both on the farm and off it.

4.2 In this chapter, we examine the household as a production unit making decisions about the use of its resources to achieve objectives, whether to maximize profits, minimize risks, or merely to survive. By looking at households from the perspective of allocating resources of labor and capital to income-earning activities, we can begin to understand the forces at work which shape the local economy, and affect transactions between the rural community, nearby towns, and the larger world beyond.

4.3 We start with a look at the household's sources of income, indicating the shares derived from farm and nonfarm activities. We also look at the role of remittances in supplementing income. This is followed by a discussion of the allocation of labor by the household to different income-earning activities in rural and urban areas. Finally, we examine the allocation of savings between farm and nonfarm enterprises, from the perspective of the risks associated with each, and the objective of reducing risk by diversifying sources of income.

A. The Household as a Production Unit

4.4 The notion of treating the household as a production unit for the purpose of understanding development problems first gained popularity with the concept of new household economics (Michael & Becker 1973), but it is not without its detractors. Moock and others (1986) have argued that while the notion first originated with studies in Europe and Asia, it is not well suited to Africa. The different social conditions and structure of the family there make it difficult to maintain the idea that the household is a cohesive decision-making unit. Hyden (1986), for one, argues that the individual not the family or household is the relevant unit for analysis in any study of the agriculture sector. Nevertheless, for the purpose of this study, treating the household as the basic decision-making unit is helpful in providing a better understanding of decisions affecting agricultural production, investment strategies, labor migration and remittances.

Production, Risk and Income Diversification

4.5 Rural households derive income from a variety of sources, and often, as will be seen, farming is not even the primary source. To understand how the household decides to earn income, it is helpful to think of it as a production
unit pursuing certain objectives, which may change over time. Among the poorest households, the goal may be to avoid disaster and merely to survive, which as Shahabuddin et al. (1986a and b) suggest, may mean taking big risks out of sheer desperation. But above the lowest income levels, the goal may be to avert risk, to ensure at least a minimum level of income to feed and maintain the household. As the household becomes more secure, the objective may become the more conventional— one of maximizing income or profit in order to improve standards of living.

4.6 Whatever the household does depends on their assessment of the risks involved and their capacity to absorb losses in case things turn out badly. In developing countries, most families including those in the middle income bracket have low or modest incomes, and a limited capacity to take risks, or to absorb downturns and losses. The capacity to absorb risk depends on several considerations, including the number of workers in the household and their level of education, the amount of land at its disposal, its location relative to urban centers, the level of income, and the extent to which earnings come from diversified sources.

4.7 In an attempt to predict farmers' behavior, or at least their propensity to take risks, Shahabuddin et al. (1986a) derived a risk coefficient for farm households in four regions of Bangladesh to indicate whether the household was likely to adopt risk-averse behavior, or might rationally gamble on risky actions. In seeking to predict the value of the risk coefficient, they found off-farm income to be the only strongly significant variable. Farm size was occasionally significant, as was family size, but interestingly neither of the variables measuring household assets or education were significant.

4.8 The household's assessment of the risks associated with a given action, and its capacity to undertake risk, largely determines its willingness to adopt new production methods and technology, both in farming as well as small businesses. Any action to increase output or raise productivity involves risk of some kind. As Evans and Ngau (1989) point out, farmers can raise productivity and income from farming in several ways: by planting more land, switching from subsistence crops to higher value cash crops, purchasing more inputs, hiring additional labor, or adopting improved methods of production. But each of these steps involves a measure of risk, which nonfarm income can help to alleviate. Based on a survey of farm households from the Kutus area in Kenya, they found that nonfarm income was closely correlated with substantially higher levels of agricultural productivity, which resulted in higher farm earnings. (See Table 4.1.)

4.9 One way of insuring against risks involved in farm production is to diversify income by engaging in nonfarm activities. Diversifying sources of income can help the household to reduce the risk of financial disaster by insulating it against losses in any one business venture or activity. It also helps to generate funds to finance investment in farming or other ventures, and eases credit constraints by providing cash for the purchase of additional land, equipment or inputs, and payment of wages. An example of such a strategy is documented by Stark & Lucas (1985) in Botswana, where rural households elect to spread risk by allocating certain members of the household as urban migrants, who are then expected to remit a proportion of their earnings back home.
### TABLE 4.1: SOURCES OF INCOME AND AGRICULTURAL PRODUCTIVITY BY QUARTILES (Kenya shillings per year)

<table>
<thead>
<tr>
<th>Variables</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Income</td>
<td>3815</td>
<td>14766</td>
<td>35150</td>
<td>114305</td>
<td>41358</td>
</tr>
<tr>
<td>Imputed net farm income</td>
<td>3301</td>
<td>8997</td>
<td>19144</td>
<td>54417</td>
<td>21168</td>
</tr>
<tr>
<td>As % of total income</td>
<td>87%</td>
<td>61%</td>
<td>54%</td>
<td>48%</td>
<td>51%</td>
</tr>
<tr>
<td>Nonfarm revenue</td>
<td>515</td>
<td>5769</td>
<td>16006</td>
<td>59889</td>
<td>20190</td>
</tr>
<tr>
<td>As % of total income</td>
<td>13%</td>
<td>39%</td>
<td>46%</td>
<td>52%</td>
<td>49%</td>
</tr>
<tr>
<td>Land under cultivation (acres)</td>
<td>3.4</td>
<td>4.9</td>
<td>5.0</td>
<td>7.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Coffee output (kgs/acre)</td>
<td>348</td>
<td>923</td>
<td>1648</td>
<td>2899</td>
<td>1916</td>
</tr>
<tr>
<td>Maize output (bags/acre)</td>
<td>3.5</td>
<td>4.7</td>
<td>6.0</td>
<td>8.7</td>
<td>6.1</td>
</tr>
</tbody>
</table>

*Quartiles ranked by total household income.

4.10 In order to diversify incomes, however, the household has to decide how to allocate its resources of labor and capital. With these thoughts in mind, let us examine first the sources of household income, and then the question of how households allocate their labor and savings to agricultural production and other activities on the farm, in nearby towns, or in more distant locations.

B. Sources of Household Income

4.11 The literature on household income distinguishes between urban and rural households but, with the exception of remittances, usually discusses the composition of income in terms of the activity from which it is derived, most often farm and nonfarm, rather than its locational origin. Almost all studies report that rural households receive income from both farm and nonfarm sources, but the shares of each in the total vary considerably, with nonfarm income ranging for example in Asia and Africa from 22 percent to 70 percent (Chuta & Liedholm 1979), and in Latin America and the Caribbean from 30 percent to 60 percent (Deere & Wasserstrom 1980). In the context of attitudes towards risk and potential for diversification, such percentages of nonfarm income assume great importance. We look at nonfarm income sources in greater detail below.
Composition of Nonfarm Earnings

4.12 Nonfarm earnings may come from many sources, most commonly wage employment, farm-based nonfarm activities, off-farm businesses, and remittances. As Chuta and Liedholm (1979) have shown, farm-based nonfarm activities are likely to include a wide range of enterprises, such as brick-making, carpentry, handicrafts, and beer brewing, while off-farm business activities may include trading, retailing, petty manufacturing, and other services, often located in a nearby town.

4.13 Most authors seem to agree that for low income rural households, wage labor is the main source of nonfarm earnings, but several report that it declines in importance among higher-income households. Kilby & Liedholm (1986) indicate that for the low income rural household, wage labor is the predominant source, while for the high income households salaries from administrative and manufacturing activities tend to predominate. From a review of ten studies carried out in Latin America, Deere & Wasserstrom (1980) report that wage labor has become the main source of income for the majority of smallholder households. In Puebla, Mexico, for example, it rises in importance from a low of 9 percent of total income among business farm households with average landholdings of 16 hectares, to 69 percent and more among minifundio households with average landholdings of 2 hectares or less. (See Table 4.2.) Rovira (cited in Deere & Wasserstrom 1980, p. 18) also indicates that wage income rises in importance as household income falls, although its contribution is smaller, from 1 percent among large landowners to 16 percent among small farmers.

4.14 A study of farm households around Kutus in Kenya (Bendavid-Val et al 1988, p. 77, Table 6.3), however, shows wage labor contributing a fairly steady 30 percent of farm household income across all income levels. Farm-based nonfarm activities also contribute a steady 6 percent, but town businesses rise sharply in importance from zero among the poorest group, to 4 percent among middle income households, and almost 30 percent among wealthier households. It was found that 40 percent of farm household income originated from local rural activities, 28 percent from nonfarm activities in Kutus town, and 32 percent from activities outside the study area, which covered a 10 kilometer radius of the town.

4.15 According to Bhalla (1981), income from nonfarm sources in the Indian Punjab is high for medium- and large-scale farmers, many of whom have large earnings from hiring out tractors and tubewells. It also plays an important role in augmenting household income of marginal and small farmers, the main sources being wages from employment, followed closely by the sale of milk.

4.16 Another common source of nonfarm income is remittances from household members working elsewhere. Case studies from Africa, India and Southeast Asia indicate that in comparison with earned income, the proportion of money and resources remitted is often substantial. As a proportion of the total income of recipients, Rempell and Lobdell (1978) concluded from their review of the literature that remittances accounted for up to 40 percent in the case of rural households, and up to 20 percent in the case of urban households. A sample survey in Kenya found similar proportions among rural households, but as much as 47 percent for the poorest urban households, which are usually newly arrived migrants or students. (Knowles & Anker 1981.)
TABLE 4.2: SOURCES OF NONFARM INCOME AMONG RURAL HOUSEHOLDS

<table>
<thead>
<tr>
<th>Sample</th>
<th>Sources</th>
<th>Percent of Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Puebla (Mexico) 1970</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business farms</td>
<td>Wages</td>
<td>9%</td>
</tr>
<tr>
<td>Family farms</td>
<td></td>
<td>32%</td>
</tr>
<tr>
<td>Poor minifundios</td>
<td></td>
<td>43%</td>
</tr>
<tr>
<td>Very poor minifundios</td>
<td></td>
<td>57%</td>
</tr>
<tr>
<td>Prosperous minifundios</td>
<td></td>
<td>69%</td>
</tr>
<tr>
<td>Wage-earning minifundios</td>
<td></td>
<td>82%</td>
</tr>
<tr>
<td><strong>Kutus (Kenya) 1988</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All farms</td>
<td>Farm-based nonfarm</td>
<td>5.8%</td>
</tr>
<tr>
<td></td>
<td>Town business</td>
<td>26.3%</td>
</tr>
<tr>
<td></td>
<td>Wage labor</td>
<td>33.5%</td>
</tr>
<tr>
<td></td>
<td>Remittances</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>Taiwan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All farms</td>
<td>1960-62</td>
<td>1970-72</td>
</tr>
<tr>
<td></td>
<td>Rental income</td>
<td>2.0% 3.0%</td>
</tr>
<tr>
<td></td>
<td>Off-farm labor receipts</td>
<td>3.0% 10.0%</td>
</tr>
<tr>
<td></td>
<td>Income from sideline</td>
<td>3.0% 12.0%</td>
</tr>
<tr>
<td></td>
<td>Other nonfarm receipts</td>
<td>3.0% 6.0%</td>
</tr>
<tr>
<td></td>
<td>Total nonfarm:</td>
<td>11.0% 31.0%</td>
</tr>
</tbody>
</table>

Sources: Puebla - Deere and Wasserstrom (1980), Table 3, p. 8.
Kutus - Bendavid-Val et al. (1988), Table 6.3, p. 77.
Taiwan - Chinn (1979), Table 6, p 294.

4.17 In general, remittances form a larger part of incomes among poorer households, and decline in importance as income levels rise. From their Kenya data, Knowles & Anker (1981) report that net remittance receipts amount to 90 percent of factor income among the poorest urban households, and over 35 percent among the poorest rural households. Net remittances transferred by urban households are highest in absolute and relative terms among middle-income groups, amounting to as much as 10 percent of factor income, but fall in importance among higher-income groups. Net remittances transferred by rural households amount to no more than 4 percent of factor incomes, and that occurs only among higher-income households. (Knowles and Anker 1981.) This trend is confirmed by Collier & Lal (1984 p. 1016), who also find that in Kenya the share of income sent by urban households declines as income levels rise, and that the share of rural household income represented by remittances received also declines as income levels rise.
Factors Affecting the Composition of Income

4.18 Several factors affect the relative weight of the different sources of income discussed above, among them the size of the landholding, the overall level of income of the household, and environmental conditions as reflected by geographical location. The latter is well illustrated by data from the nation-wide Integrated Rural Survey in Kenya. This indicates that at the national level farming contributed 59 percent of average total rural household income, regular wage employment 15 percent, nonfarm business 9 percent, remittances 8 percent, and casual employment 7 percent. In the Coast province, however, income from farming amounted to only 27 percent of the total, but remittances came to 24 percent, and nonfarm earnings to 18 percent (Livingstone 1981 p. 6:31). The author attributes these differences to good opportunities for nonfarm employment, and the unusually high remittances from relatives working in local plantations, and the tourism and entertainment sectors.

4.19 While most writers report a more or less consistent relationship between the size of landholding and the composition of household income, the same is certainly not true for the relationship with the level of income.

(a) Size of landholding.

4.20 An examination of data from five countries in Asia and Africa reveals an inverse relationship between size of landholding and the share of nonfarm income in total rural household income (Kilby & Liedholm 1986, p. 9). Among households with the least land, the nonfarm income share ranges from 50 percent in Sierra Leone to 88 percent in Thailand. Among households with the most land the share is substantially lower, ranging from 45 percent in Thailand to as little as 16 percent in Korea. (See Table 4.3.)

4.21 Deere and Wasserstrom (1980) have shown that off-farm income is even more important when only small-holders are taken into account, and they state that "landless and manifundio households show a much greater reliance on off-farm income than do medium and large farm households" (p. 4). They cite the case of Chuquisaca department in Bolivia, where rural families derived a greater portion of their livelihoods from agriculture (64 percent) than did their counterparts in either Potosí (40 percent) or Tarija (30 percent), where farms are smaller. On properties of less than one hectare, households derived only 27 percent of their income from farming, a figure which increased to over 67 percent on properties larger than five hectares.

4.22 Similar results are cited by Anderson & Leiserson (1980, p. 233), from studies in Zambia, Pakistan, Korea, and Thailand, which all show that the nonfarm share of household income tends to fall as farm size increases. In North Thailand, cropping intensity also emerges as a significant factor. The nonfarm share drops from 42 percent to 32 percent as landholdings increase on more intensely cropped farms, and from 76 percent to 43 percent on farms where cropping intensity is lower. Rietveld (1986), speaking of Java, mentions that in relative terms, income from non-agricultural activities is most important for the landless and small farm households, although in absolute terms, large farmers also derive sizeable incomes from this source.
<table>
<thead>
<tr>
<th>Country</th>
<th>Size of Holding (in acres)</th>
<th>Net farm income as share of total household income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea - 1980</td>
<td>0.00-1.23</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>1.24-2.47</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>2.48-3.70</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>3.71-4.94</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>4.95+</td>
<td>16%</td>
</tr>
<tr>
<td>Taiwan - 1975</td>
<td>0.00-1.23</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>1.24-2.47</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td>2.48-3.70</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>3.72-4.94</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>4.95+</td>
<td>26%</td>
</tr>
<tr>
<td>Thailand - 1980-81</td>
<td>0.00-4.10</td>
<td>88%</td>
</tr>
<tr>
<td></td>
<td>4.20-10.20</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>10.30-41.00</td>
<td>56%</td>
</tr>
<tr>
<td></td>
<td>41.00+</td>
<td>45%</td>
</tr>
<tr>
<td>Sierra Leone - 1974</td>
<td>0.00-1.00</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>1.01-5.00</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>5.01-10.00</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>10.01-15.00</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>15.00+</td>
<td>15%</td>
</tr>
<tr>
<td>Northern Nigeria - 1974</td>
<td>0.00-2.46</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>2.47-4.93</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>4.94-7.40</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>7.41-9.87</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>9.88+</td>
<td>24%</td>
</tr>
<tr>
<td>SOURCE: Kilby and Liedholm (1986), Table 4, p. 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Bolivia - 1976-77</td>
<td>0.00-2.50</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td>2.51-5.00</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td>5.01-12.50</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>12.51-25.00</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>25.00+</td>
<td>33%</td>
</tr>
<tr>
<td>Source: Deere and Wasserstrom (1980), Table 4, p. 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zambia - 1966-68</td>
<td>4.9</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>22.8</td>
<td>6%</td>
</tr>
<tr>
<td>Pakistan - 1968</td>
<td>&lt; 6.25</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>6.25-12.49</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>12.50-18.74</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>18.75-24.99</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>&gt;25.00</td>
<td>6%</td>
</tr>
<tr>
<td>Source: Anderson and Leiserzon (1980), Table 3, p. 233.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.23 It may be concluded, therefore, that small landholders derive a greater share of income from nonfarm activities. Occasionally, writers report some exceptions to these general patterns, where in spite of the prevalence of small landholdings, income is derived largely from agricultural sources. Speaking of a such case in the Peruvian highlands, Deere and Wasserstrom (1980) attribute this to the limited degree of development of the labor market, and to problems of estimating income.

(b) Level of income.

4.24 A much less consistent picture emerges from an analysis of the relationship between the composition of rural household income and the level of income. As total household incomes rise, the relative shares from farm and nonfarm sources change in importance, although authors report widely varying patterns. All four studies cited by Anderson & Leiserson (1980, p. 233) indicate that as total farm incomes rise, the nonfarm share falls in importance. The same trend is reported by others. In a study of households in 13 asentamientos (a form of cooperative farm) in Panama, Thiesenhusen (1987) concludes that "those who do best with their asentamiento land have less need to work off-farm ... for income purposes" (p. 829). In Kenya, Livingstone (1981 p. 6) calculated that off-farm sources of income contributed 43 percent of average household income, but as much as 77 percent among the poorest.

4.25 Elsewhere in Kenya, however, Collier & Lal (1984, p1014) report different patterns. In Nyanza and Central provinces, they find the same downward sloping curve in which the nonfarm share drops steadily as total income rises. In the Western province, however, they observe a J-shaped curve. Relative to poor households, the nonfarm share is lower among middle income households, and higher among the rich. This same J-shaped curve is reported by Kilby and Liedholm (1986, p. 11) in Sierra Leone, northern Nigeria, and Thailand. They conclude that rural non-farm income is relatively important at both ends of the income distribution spectrum, as does Kitching (1977), speaking of East Africa, who claims the proportion of income from nonfarm sources was highest among the poorest and richest. On the other hand, contrary to most other studies, Evans & Ngau (1989 p. 14) find that in the area around Kutus town in Kenya, the nonfarm share rises steadily as total household income increases.

4.26 These differences are not easy to explain. Some clues, however, are provided by empirical evidence on the relative growth of farm and nonfarm income in different countries.

Growth of Farm and Nonfarm Income

4.27 Whether income from farming grows faster or slower than income from nonfarm sources depends on numerous factors, and is likely to be highly sensitive to particular local conditions. Several studies report rapid increases in household incomes from agriculture associated with the green revolution, but few provide a comparison of the growth of income from farm and nonfarm sources within the household.

4.28 In one study in rural India covering 1968-69 to 1970-71, Gaiha (1988) found that among the group of poor who ceased to be poor, the largest component of the 125 percent increase in total household income came from substantially
higher revenues from cultivation. Among the subgroup that benefited from increased farm revenues, income from cultivation rose 153 percent in real terms over the two year period. He attributes this mainly to increases in cropped area and output per hectare arising from the use of new technology. However, the subgroup of households which registered this dramatic increase represented only 22 percent of the survey total. A follow up survey of the whole sample - or at least those that could be traced - ten years later found that average household income had increased only 17 percent during the interim, which suggests that while farm income may have risen sharply for some, this was not the case for most.

4.29 Among farm households in Taiwan, on the other hand, Chinn (1979) reports that nonfarm income has risen steadily in importance. Over a ten year period starting from 1960-62, total real household income rose 24 percent. But while nonfarm receipts increased 260 percent, net farm income actually fell 55 percent, with the result that the nonfarm share rose from 11.0 percent at the start to 31.0 percent by the end (Table 4.2). Despite increases in agricultural productivity, households spent less time farming, down from an average of 531 family days in 1960-62 to 393 days ten years later. The author claims this is due in part to smaller family sizes, and the substitution of capital and other technical inputs for labor, but also to a gradual shift in the allocation of family labor toward nonfarm activities.

4.30 This suggests that two opposite trends are at work. In some cases, circumstances may encourage farm households to specialize more on farm production, while in others, conditions may induce farmers to diversify into nonfarm activities.

4.31 At low income levels, two scenarios are possible depending on the pattern of land distribution. In places like parts of India and Latin America, where land is scarce due to density of population or concentration of ownership, poor households may have little or no land, and will clearly have to depend on nonfarm income for survival. But in other places, chiefly Africa, where traditionally land has been held communally, poor families are more likely to have access to enough land to support themselves through subsistence farming, and will therefore be less urgently driven to seek nonfarm income.

4.32 At middle income levels, and among medium-sized landholders, two factors would seem to determine whether households specialize in farming, or diversify into other activities: the degree of security in agriculture; and the relative attractiveness of alternative nonfarm opportunities. Security depends among other things on environmental conditions, availability of land, price volatility and government guarantees, and the scope for diversifying production within agriculture itself.

4.33 But even where conditions in agriculture may be relatively secure, nonfarm activities may offer even better opportunities for rural households to raise their income. This may be especially true where households have easy access to nearby urban areas, and in countries where income levels are high enough to support a wide range of more productive nonfarm activities. This situation is more likely in areas with a dense rural population, small individual holdings, and a decentralized urban system with lots of small towns. Such is the case, for example, in Taiwan, and in the Kutsa area of Kenya, where higher-
income rural households evidently prefer to diversify into nonfarm enterprises (Chinn 1979, and Bendavid-Val et al 1988).

C. Allocation of Household Labor

4.34 The decision to allocate labor to farm or nonfarm activities depends on the current objectives of the household, as well as internal and external factors. Internal considerations include among others the present level of income of the household, the amount of land and capital assets at its disposal, the potential for agricultural production, and the number of working age members. External factors are likely to include the availability of employment opportunities locally and further afield, the availability of credit, and the risk attached to alternative options. Farming and herding, in particular, are risky ventures, especially where rains are unpredictable, markets are uncertain, and there are no price guarantees for crops or livestock.

Extent of Nonfarm Employment Among Rural Households

4.35 In most countries, the trend towards engaging in non-farm employment is strong, although estimates of the proportion of rural households that have members engaged in nonfarm activities vary widely. Anderson and Leiserson (1980 p. 229) present data for 15 countries showing that the percentage of the rural labor force primarily engaged in non-farm work falls between 20 percent and 30 percent. In some countries, where larger but essentially rural towns are included, the figure rises to 30 percent-40 percent. (See Table 4.4.)

4.36 From the 1980 Pakistan Census of Agriculture, Klenert (1986) calculates that 17 percent of all economically active men belonging to marginal farm households were engaged in non-agricultural work. But the census counted only those men living permanently in the household, and excluded non-resident members living temporarily at their place of work. Taking these into account, Klenner estimates from his own survey that 40 percent of all marginal farm households in rural areas included members either resident or non-resident that were engaged in nonfarm work. He cites other similar studies in Pakistan which found proportions ranging from 58 percent to 70 percent, where off-farm income amounted to between 39 percent and 43 percent of the household's total earnings.

4.37 This variation in the proportion of households with members engaged in nonfarm work may be explained by at least two factors. First, some part of the variation arises from seasonal fluctuations in demand for farm labor, which peaks at planting and harvest times. Second, the incidence of nonfarm employment among rural households will depend on the availability of jobs in agriculture and outside it, and relative wage levels. Manning (1988), for example, indicates that rapid agricultural growth in rural Java has been accompanied by increased employment in agriculture. He also argues that at least till the early 1980s, agricultural growth had weak linkages with non-agricultural employment creation.

4.38 Considerable differences have also been observed in the number of households with members engaged in nonfarm activities as landholdings or income levels increase. As was already seen in the case of income, households without land or with smaller landholdings are more likely to have members working in nonfarm activities. In a 1973 survey of rural households in Cajamarca department
<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Employment (%)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Farm</td>
<td>Nonfarm</td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>1969</td>
<td>72</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Iran</td>
<td>1972</td>
<td>67</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Guatemala</td>
<td>1964</td>
<td>86</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>El Salvador</td>
<td>1975</td>
<td>68</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>1970</td>
<td>77</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Venezuela</td>
<td>1971</td>
<td>63</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>1970</td>
<td>70</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>1970</td>
<td>88</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>1971</td>
<td>72</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>1972</td>
<td>82</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>1970</td>
<td>72</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>West Malaysia</td>
<td>1970</td>
<td>68</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>1970</td>
<td>81</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>1966</td>
<td>51</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>1966-67</td>
<td>80</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Source: Anderson and Leiserson (1980), Table 1, p. 229

<table>
<thead>
<tr>
<th>Bangladesh</th>
<th>1981</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Village in Dhaka</td>
<td>41</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Village in Chittagong</td>
<td>35</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

India

<table>
<thead>
<tr>
<th>1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village in W. Bengal</td>
</tr>
</tbody>
</table>

Pakistan

<table>
<thead>
<tr>
<th>1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village A</td>
</tr>
<tr>
<td>Faisalabad</td>
</tr>
<tr>
<td>Village B</td>
</tr>
</tbody>
</table>

Sri Lanka

<table>
<thead>
<tr>
<th>1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village in Kandy</td>
</tr>
<tr>
<td>Village in Kurunegala</td>
</tr>
</tbody>
</table>

Thailand

<table>
<thead>
<tr>
<th>1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Village in Suphanburi</td>
</tr>
<tr>
<td>Village in Kalasin</td>
</tr>
<tr>
<td>Village in Chiang mai</td>
</tr>
</tbody>
</table>

Source: Islam (1984), Table 1, p. 309.
in Peru, Deere (cited in Deere & Wasserstrom 1980 p. 14) found that 30 percent engaged in artisan production, and 53 percent in wage labor. Artisan production was a little more prevalent among households with larger landholdings, 36 percent versus 30 percent among smaller farms, but the proportion of households with members engaged in wage labor fell off dramatically as the size of landholding increased, from 71 percent among the smallest farms to 30 percent among the larger ones.

4.39 Similarly, in a paper analyzing non-farm activities in rural Asia using village level data from five countries (Bangladesh, India, Pakistan, Sri Lanka, Thailand), Islam (1984) concludes that employment in nonfarm activities is substantial among rural households (Table 4.4) and varies inversely with the size of farm. He also claims, however, that wages from most activities are low, and that the growth of nonfarm activities is more a symptom of distress, reflecting adaptation to increasing poverty rather than dynamic growth.

4.40 More often, however, studies report a trend towards the increasing participation of households in nonfarm activities, and this is interpreted as a sign of a prospering local economy, and a reflection of rising rural incomes and the creation of new income-earning opportunities. Using data from nine countries, Chuta and Liedholm (1979; quoted in Kilby and Liedholm, 1986) show that the percentage of the rural labor force engaged in nonfarm work had risen in all of them, much of it in small scale rural enterprises. Annual growth rates in rural nonfarm employment ranged from 3.2 percent in Korea between 1960 and 1974, up to 9.4 percent in Taiwan during the period 1955-66. In general, the growth rates varied with the type and size of enterprise, growth in employment being higher for larger size firms as measured by number of employees.

4.41 Chinn (1979) confirms the trend reported by Chuta and Liedholm in Taiwan, and Binswanger (1983a) reports a similar situation in Thailand. There, between 20 percent and 40 percent of the rural labor force is engaged in off-farm pursuits, and the proportion also seems to be rising.

4.42 According to Carlsen (1980), however, there is often a marked difference in the returns obtained from rural non-farm production in part-time secondary occupations - particularly subsidiary household activities such as petty trade and home crafts - and those obtained in permanent full-time occupations of the informal variety. Furthermore, he suggests as rural incomes rise, the latter tend to displace the former. Carlsen reports that 43 percent of the population were involved in non-farm production in a very poor area, while for three more prosperous areas the percentage ranged from 16.4 to 21.5.

4.43 In keeping with earlier conclusions, all this suggests that rural households with smaller landholdings and having lower levels of income are more likely to allocate labor to non-farm activities than larger or high income households. This is understandable since the former have less access not only to land but also to other factors such as credit, infrastructure, and other supporting services. Given the difficulties and risk involved for them to raise their productivity as farmers, they are more likely to deploy their labor in nonfarm activities, both on and off the farm.
D. Allocation of Household Savings and Investment

4.44 Numerous writers refer to the use of income from one activity as the means to finance investment in another. Typically, this means nonfarm earnings being used to purchase agricultural inputs and sometimes more land or labor. But it may also mean earnings from agriculture being used to finance a nonfarm enterprise.

Non-Farm Income and Agricultural Investment

4.45 Non-farm income not only eases the credit constraint for farmers, but as several authors have recently argued, it provides the household with a form of insurance against the risks of farming, and thereby helps to raise agricultural productivity. Basing his study on economic and household income surveys carried out among cash crop farmers in East Africa between 1967 and 1977, Kitching (1977) found a marked tendency for household and per capita incomes to rise with an increase in cropped area. He attributed the increase in cropped area to farmers' access to off-farm income, which they used to purchase land or hire labor. According to Kitching, "Access to off-farm income in significant and regular amounts enable men to buy land, to invest in cash crops and livestock, and to hire labor which in turn allows bigger areas to be cropped" (p. 46).

4.46 In Pakistan, Klennert (1986) observed that off-farm employment improved the income of households with marginal farms directly and indirectly. Indirectly, the effects of off-farm employment were felt through the increase in agricultural yields of small farms, as 77 percent of the households surveyed did not consume all the additional earnings, but used part of them to buy fertilizer and improved seeds, and to hire tractors and equipment (p. 42).

4.47 In examining changes in farm household incomes in three provinces of Kenya, Collier and Lal (1984) found that "both noncrop income and liquid wealth significantly and powerfully contribute to crop income controlling for the direct inputs into production." They argue that the principal agricultural decisions which are potentially constrained by risk and cash flow are the use of purchased inputs and the mix of crops, which dictates need for inputs. They also point out that the shift from maize to coffee takes several years, implying high opportunity costs for food crop income foregone while coffee tree plants reach maturity. They conclude that "the benefits of (agricultural) growth will accrue to those smallholders with characteristics which enable them to overcome cash flow and risk constraints," and that "a prime component of this group are those who participate in the urban economy" to generate noncrop income.

Investment in Non-Farm Enterprises

4.48 The use of income from farming to finance nonfarm enterprises is less well documented, though examples exist. Household participation in nonfarm enterprises is of course likely to be more prevalent in urban than in rural areas. A study by Vijverberg (1988 p. 13) in the Ivory Coast, for example, indicates that participation rises from 27 percent in rural areas, to 45 percent in Abidjan, and a high of 51 percent in urban areas outside the capital. The lower rate in Abidjan is mainly due to the wider availability of wage and salary employment there.
4.49 According to Vijverberg, 47 percent of urban households operate a non-agricultural enterprise, and about half of these depend upon this enterprise for more than half their household income. While only 21 percent of total urban household income originates from non-farm enterprises, households with such enterprises do not fall into the lowest welfare categories. In fact, in rural areas, they often rank in the highest income deciles.

4.50 In other urban areas, however, nearly half the males and half the females work on the family farm, only 43 percent of male and 11 percent of female workers being wage employees. The non-agricultural self-employed mainly comprise females, older workers, and foreign nationals. Thus, it seems that nonagricultural self-employment is an option for the household's secondary earners and for low income households, but not for primary earners in middle income households.

4.51 For the Ivory Coast as a whole, households with nonfarm enterprises belong more often to the middle classes rather than to the poor, as has often been suggested in the literature. In Kutum, they are to be found among some middle income farm households, but mainly among the higher-income group within the sample, though these households are probably middle-income by most other standards (Bendavid-Val et al 1988).

4.52 From the above examples, we conclude that even though lower-income rural households have a greater tendency to turn to nonfarm employment, be it for reasons of survival or to raise cash for productive activities, it is the larger and middle income households who actually invest in nonfarm enterprises. The former provide the labor, but the latter have access to the capital required for such businesses.
V. RURAL-URBAN EXCHANGE

5.1 A region's capacity to engage in trade with other parts of the country or with other countries, depends in part on how effectively it is linked to the world outside. Without adequate communications providing information about market conditions elsewhere, producers in the region will not learn of export opportunities or potential markets for their products. Without adequate transportation facilities, connecting the region's producers to potential markets, they will not be able to get their goods to market, even if they are aware of the opportunities. And without effective channels for mobilizing labor, capital and other inputs, the region's producers will not be able to supply the goods and services demanded.

5.2 In this chapter, we examine the mechanisms by which goods, labor, income and capital flow between rural and urban areas. In the sections which follow, we look in turn at marketing channels for agricultural produce; the movement of labor; remittances, or the transfer of income between households; and financial markets which govern the flows of capital.

A. Movement of Goods

5.3 The conventional model of a marketing system for agricultural produce suggests a hierarchical structure, in which small quantities are bulked together in ever larger amounts as they proceed up the hierarchy from the village to smaller towns for final dispatch to the largest cities. There is plenty of evidence to support this model, but it is not the only one that exists.

5.4 The conventional model assumes that the bulk of the population is urban, and that therefore the marketing system is geared to meet urban demand. But in many less developed countries, a large part of the population is still rural, and this implies substantial market flows to meet rural demand. The flows associated with this demand are accordingly less hierarchical, since the population is widely dispersed, and the quantities required are much smaller. Such a demand pattern gives rise to a more diffused set of marketing links, from producers to villages, to smaller market towns, then back to traders and retailers in other villages. Both of these patterns are well illustrated by Carroll et al (1984) in a series of maps showing the flows of goods from a dozen market centers in the Ambato region of Ecuador.

5.5 At higher levels of the settlement hierarchy, the largest markets tend to be associated with the largest centers of population. But at lower levels, as the Ambato study shows, and others in Niger and Bolivia this is less true. Important markets are often found in small towns and even in rural areas, away from urban populations. The main determinant for the location of these lower level markets is not so much the population of potential consumers, as the volume of production, and access to producers. In Ecuador, for example the third most active market in the Ambato region is located in the ninth largest urban center, with a population of less than 3000. Likewise in the Potosi region of Bolivia, two of the most active markets were located in a productive farming region on the highway between two cities, one in a small town of about 3000 people, the other in a village with a resident population of less than 200 (Evans 1982).
5.6 Another reason why marketplaces do not always correspond with centers of population is that in many regions the settlement hierarchy is incipient and still emerging. As Arnould (1985) indicates in Niger, based on a correlation analysis of price data for selected commodities between pairs of market towns, markets for some items (e.g., millet, and cloth) are far better developed than others (e.g., groundnuts and other foods). The author finds that price-setting mechanisms are fragmented, and that markets are not part of a single system; rather, marketplaces localize a plethora of marketing subsystems in a single location. He concludes that the market system in some parts of the region is better articulated than others, due to better roads, and proximity to other market towns.

5.7 Other studies of marketing systems focus not so much on the spatial characteristics, but on the actors or traders that make up the system. In a study of the chilli market in Java, for example, Alexander (1986) identifies a number of different kinds of traders in the chain from producer to processing factory, export market, or final consumer. These include: local village level traders buying small amounts directly from the farmer; merchants who operate depots or warehouses; wholesalers who buy from the merchants; agents who sometimes act on behalf of the merchants; and retailers at the end of the chain who sell to consumers. Winarno et al (1980) identify a similar array of traders and middlemen engaged in the marketing of other agricultural produce also in Java. Evans et al (1988) describe the chains associated with the marketing of livestock in the Kismayo region of Somalia, which vary according to whether the market destination is the region, the national capital Mogadishu, Kenya, or overseas. (See Box 5.1.)

5.8 All of these studies have several features in common. First, the more distant the destination market, the more numerous the intermediaries involved in the marketing chain. At one extreme, the producer or farmer may sell the goods directly to the consumer in the local marketplace. At the other extreme, produce may change hands six or seven times before it leaves the country or reaches a major urban center. Second, as Winarno documents, marketing embodies several processes, each of which in some way adds value to the goods, such as sorting, rudimentary processing like peeling and drying of cassava, storage of tomatoes, grading, packaging for green beans and sweet potatoes, transportation, and finally retailing. In the case of livestock, marketing may also include fattening and quarantining prior to export. Third, marketing chains are fluid and constantly changing according to the nature of the produce being traded, the market destination, and seasonal fluctuations in both supply and demand. Traders and middlemen frequently receive a bad press. The popular image paints them as speculators and profiteers using their knowledge of market conditions to exploit the farmer (e.g., Figueroa 1985). Usually, these claims are based on the simple observation of large margins between the price received by the producer and the price paid by the consumer, and the assumption that margin equals profit.

5.9 However, as was just pointed out, there is seldom a single trader involved between producer and consumer, and estimates of marketing margins for different kinds of traders vary widely. In her study of the chilli market in Java, Alexander (1986) records typical price mark-ups in the wet season of 37 percent by traders, 45 percent by merchants operating local depots, but only
BOX 5.1: LIVESTOCK TRADER MARGINS IN THE KISMAYO REGION, SOMALIA.

Cattle traded in the Kismayo region of Somalia are destined for four different markets: the local one in Kismayo town, the national market in the capital of Mogadishu, and export markets to Kenya and the Middle East. Cattle prices vary according to sex and age, but are particularly sensitive to climatic conditions, falling sharply during dry periods when herds are vulnerable to the scarcity of water and feed. There are several different categories of cattle trader who mediate between the producer and final markets, including: brokers, middlemen, local traders and overseas traders. Each of these performs different functions ranging from matching a buyer with a seller to large-scale overseas trade. Brokers do not buy and sell animals themselves but charge a commission on sales, usually 2.5 percent. Middlemen frequently co-operate with two or three other traders, pooling their resources and helping each other.

The costs incurred by the different kinds of livestock traders vary considerably, and differ from traders of other commodities in that they often have to carry additional production costs for feeding, fattening, and otherwise preparing animals during the period between buying and selling them. The expenses for overseas traders tend to the largest and most diverse, typically comprised as follows: trucking costs 12 percent of the total, feed related costs another 12 percent, quarantining over 10 percent, taxes and fees 7 percent, insurance nearly 7 percent, shipping agency 7.8 percent, hired labor 5.6 percent, communications 6.2 percent, and market broker fees 7 percent.

The expenses of traders in other markets are less than half those of the overseas traders, and are smallest for the local Kismayo market. Major expense items include: risk/loss (26 percent) for Kenya traders, transport costs (29 percent) for the Mogadishu market, and broker fees (29 percent) for Kismayo traders. For middlemen, the major costs are: taxes (26 percent), risk/loss (26 percent), and broker fees (21 percent for the overseas market), the percentages being slightly smaller for the Kenya and Mogadishu markets.

Margins also vary widely among the different kinds of traders. The highest margins of about 18 percent of the final price accrue to the overseas trader, while the lowest margins of 2.5 percent are earned by the broker who brings the buyer and seller together. Middlemen who buy directly from the herder receive net returns usually equivalent to less than 5 percent of the final sales price. Among markets, trader margins vary from 8.19 percent in the nearby Kismayo market to 12.42 percent in Mogadishu and 17.47 percent in the Kenya market. Much of the variation in trader margins can be explained by the length of time between buying and selling, margins being lowest where turnover is most rapid, and rising as the turnover period gets longer.

MARGINS AND NET RETURNS FOR CATTLE TRADERS

<table>
<thead>
<tr>
<th></th>
<th>Kismayo trade</th>
<th>Mogadishu trade</th>
<th>Kenya trade</th>
<th>Overseas trade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traders:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final price</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Purchase price</td>
<td>83.3%</td>
<td>74.5%</td>
<td>71.5%</td>
<td>68.5%</td>
</tr>
<tr>
<td>Expenses</td>
<td>8.5%</td>
<td>13.1%</td>
<td>12.5%</td>
<td>21.7%</td>
</tr>
<tr>
<td>Net returns</td>
<td>8.2%</td>
<td>12.4%</td>
<td>17.5%</td>
<td>18.1%</td>
</tr>
<tr>
<td>(as % of final price)</td>
<td>8.2%</td>
<td>12.4%</td>
<td>17.5%</td>
<td>18.1%</td>
</tr>
<tr>
<td><strong>Middlemen:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selling price</td>
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<td>74.5</td>
<td>70.0</td>
<td>60.5</td>
</tr>
<tr>
<td>Purchase price</td>
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<td>60.7</td>
<td>53.3</td>
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<tr>
<td>Expenses</td>
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<td>7.6</td>
<td>6.6</td>
<td>5.9</td>
</tr>
<tr>
<td>Net returns</td>
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<td>6.2</td>
<td>10.1</td>
<td>4.7</td>
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<tr>
<td>(as % of selling price)</td>
<td>N/A</td>
<td>8.3%</td>
<td>14.4%</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

Source: Evans et al (1985), Ch. 10.
6 percent by regional depots, which rely more on high turnover to generate revenue. During the dry season, these margins are lower due partly to the reduced risk of spoilage. Winarno et al (1980) reports margins as low as 7 percent for collectors of peanuts and as high as 51 percent for village middlemen trading in taro.

5.10 Marketing margins, however, have to cover traders costs as well as their profits. Winarno et al (1980) calculated average marketing costs for a range of goods, and then computed resulting profit margins for four kinds of traders. They found that transportation typically makes up 28 percent of total marketing costs, damage and risk 20 percent, depreciation of facilities 13 percent, storage losses and packaging 8 percent each. Based on these estimates, they derive "profit" margins of 22 percent for retailers, 15 percent for village middlemen and 11-12 percent for traders and wholesalers. These so-called profits, though, represent the wages and salaries of the trader and his or her assistants. Based on the figures quoted previously, Alexander (1986) claims that the highest profits are made by merchants operating the local depot, and this is because they have better access to price information and can sell in a wider variety of markets. However, since the author provides little indication of the operating costs of the depot, it is difficult to judge if the profits are in fact as large as she suggests.

5.11 Few studies are available to indicate how marketing systems in a given region evolve over time. However, one study by Mohammad (1985) in Pakistan provides pointers. He distinguishes between three kinds of markets: village markets close to the farmgate; primary wholesale markets, which act as assembly points for bulking of marketable surplus from surrounding areas; and terminal markets located in large urban centers, which are operated mainly by wholesalers supplying retailers, exporters, and food processors such as mills.

5.12 Among the changes the author documents, three stand out. First, village markets have been replaced in importance by primary wholesale markets in larger towns, as farmers became more selective in both time and place for selling produce, selling more to primary wholesale markets than to traditional buyers. This happened partly because of better roads and transport facilities, and partly because farmers had substantially increased their productivity in the interim, and had larger volumes of produce to sell. The larger volume of output reduced the per-unit marketing costs of selling in more distant markets, enabling the farmer to benefit from better prices there. Second, there was a large increase in the number of traders and commission agents operating in the market, due partly to the increased volume of marketable surplus, and partly because improved farm productivity released farm household labor into trading. Third, the increased competition among traders resulted in lower trader margins, signifying an improvement in the performance of agricultural markets.

5.13 Common to each of these studies is the message, explicitly stated or not, that better linkages benefit all concerned. By reducing shipping costs, improved roads and transportation services allow producers to compete in more distant locations. Increased supply coupled with easier access induce more traders into the marketplace, creating more competitive conditions. Competitive markets facilitate the movement of produce between surplus and deficit areas, enabling producers to gain higher prices, traders to reduce their costs, and consumers to enjoy a wider choice at lower prices.
B. Movement of Labor

5.14 The second major flow of resources between rural and urban areas to be examined here is the movement of labor. Ever since Lewis (1954) first drew attention to the subject, it has been widely assumed that developing countries are characterized by virtually unlimited supplies of labor. This view is reinforced by numerous casual references to the "unemployment problem," and certainly seems plausible given the high rates of natural population increase prevalent in many countries and the slow rate of growth of formal sector employment recorded in official counts. Furthermore, efforts to test this assumption empirically have often been inconclusive, due partly to the nature of the labor market and the limitations of data collection in most developing countries, coupled with the inherent definitional problems of measuring unemployment.

5.15 Nevertheless, considerable evidence suggests that this perception is misleading. Given that few governments can afford unemployment benefits for those without work, unemployment is a luxury that only wealthier individuals can afford. As is now recognized, most countries suffer not so much from widespread unemployment as underemployment or intermittent employment. The real problem is that many forms of work involve low levels of productivity that do not provide adequate incomes for those who practice them.

5.16 Furthermore, numerous studies report not surpluses of labor but shortages, particularly in the rural sector at certain times of the year. In Kenya, for example, Livingstone (1981) claims that while the western part of the country had a labor surplus, the coastal zone suffered from chronic labor shortages especially on the sugar and sisal estates. In the central zone, labor shortages were evident in several areas, especially at peak seasons on the coffee and tea plantations, due in part to the intensification of smallholder agriculture. In Pakistan, a World Bank report on employment pointed to rapidly rising agricultural wages during the Green Revolution as an indication not of labor surpluses, but of shortages (World Bank 1988a).

Direction of Movements

5.17 The mismatches between demand for labor and supply at given times and places are of course what drives the movement of labor from one part of the country to another, and even abroad. In discussing these movements, we can distinguish between three main directions: from one rural area to another; from rural to urban areas; and from one urban area to another. The reverse movement of labor from urban to rural areas can conveniently be included in the discussion of rural to urban flows.

5.18 The relative importance of these different flows in each country depends to a large extent on the current level of urbanization, the rate of economic growth, rural-urban terms of trade, and demand for exports of both the region or the country (Kelley & Williamson 1984). Over the long haul, in any country that is steadily urbanizing, the largest net flows have to be rural to urban. This is the aspect of migration which generally receives most attention in the literature. But such sources tend to disguise or overlook the large
number of temporary moves that are taking place all the time, a large proportion of them in other directions.

5.19 As Hugo (1983) points out, there has been a great increase in the volume of commuting, circular migration, and seasonal migration in much of the Third World. The more or less permanent, longer-distance internal migration studied by means of conventional surveys and censuses is only one subset - and often not the largest or most significant subset in its economic and social impact - of total population mobility. Most of these temporary movements generally go unreported, making it difficult to assess the relative magnitudes of flows in each direction.

5.20 In countries where most of the population is still rural, as in Africa, the largest movements of labor are more likely to be intra-rural, from one rural area to another. Based on data from the 1969 census in Kenya, when there were only 11 towns in the country with populations larger than 5,000, Rempel (1974) estimated that only 35 percent of all migration moves were into urban areas, the majority being rural-to-rural flows. As the urban population expands, the rural-to-urban proportion will of course grow accordingly.

5.21 In countries at a more advanced stage of urbanization, the predominant flows are more likely to be inter-urban, from one city to another. But even in developing countries, such flows may also form a large part of the total movement of labor. In Nigeria, which at the time of the 1963 census already had 24 cities with populations larger than 100,000, Lacey (1985) found that, of the migration streams to the three large cities she studied, inter-urban movements were dominant. In Kano, she found that well over half the migrants previously resided in another city, and in Ibadan the proportion rose to three-quarters. She concluded that larger African cities located in close proximity to each other are more likely to attract migrants from other cities than rural areas.

Frequency and Duration of Moves

5.22 The frequency and duration of labor movements are closely associated with the direction of the move. Flows from one rural area to another tend to fall into one or other of two extremes, either seasonal or permanent. The most common type of move is the short-term move connected with seasonal fluctuations in demand for labor in agriculture. In the north-east region of Thailand, Prapertchob (1981) found that about 8.5 percent of the total economically active population left the province during the dry season to seek employment elsewhere, mainly in Bangkok, but also in the sugarcane areas and the fruit orchards of the southern and center-east provinces. Since peak season demand for labor in agriculture usually lasts only two or three months, movements tend to be shorter and more frequent. At the same time, seasonal moves serve as a mechanism for acquiring information about and experience in alternative employment which may lead to longer term or permanent migration.

5.23 The other kind of move from one rural area to another is the permanent move by households seeking to establish themselves on new farms, or in new agriculture-related settlement schemes. Typical of such moves are those associated with the transmigration program in Indonesia, settlement schemes in Malaysia, and the opening up of the interior in Brazil (Katzman 1971). As
Livingstone (1981) points out, migrants who make these moves tend to be older, and members of larger families in search of land of their own.

5.24 Labor flows from rural to urban areas typically consist of three kinds: commuting, which involves daily or weekly journeys to work in the city; circular migration, which involves regular extended trips to one or more cities in the pursuit of commercial or other business activities; and semi-permanent moves, which may or may not result in a return to the origin. Hugo (1985) and Manning (1986) have both mentioned that rural-to-urban commuters and circular migrants in Java increased in number considerably during the 1970s and early 1980s, corresponding to an increase in employment in manufacturing and service activities, both of which are dominated by wage employment. Manning concludes that this commuting and circular migration to urban centers contributed to a diversification of income and employment rather than a shift out of agriculture in the six west Java villages that he surveyed in 1978: 40 percent of his respondents still reported agriculture as their main source of income.

5.25 Less research has been conducted on inter-urban movements of labor. In Nigeria, Lacey reports that rural-born migrants initially made short-distance moves to nearby towns, and from there moved on to larger cities, though all the while remaining within similar cultural surroundings. At an aggregate level, the volume and direction of labor flows is clearly influenced by macro-economic policies affecting industry and agriculture (see Chapter VI), but at the local level, flows to and from individual cities are more likely to depend on local resource endowments, demand for those resources, (such as oil, coal, or other minerals), and specific circumstances such as programs for building new state and national capitals.

Determinants of the Movement of Labor

5.26 Most students of migration concern themselves with rural-to-urban movements, and seek to explain these in terms of wage differentials, or expectations of life-time earnings. The Harris-Todaro (1970) model divides the labor market into three sectors—rural, urban informal, and urban formal or modern—and posits that the decision to migrate is also a function of the expectation or probability of obtaining employment in the modern sector. This model has attracted considerable attention since it first appeared in 1970, although subsequent research suggests that some of its premises are questionable.

5.27 In the first place, the model assumes that people move without a definite offer of a job, but based on their perception of the probability of getting one. Many studies, however, indicate that people only make a move after they receive the promise or a firm offer of employment. Chamrathiramong (1979 p. 36, cited in Binswanger 1983a), for example, found that over 60 percent of migrants to Bangkok either had a job or a promise of a job before moving. Relatives, friends and acquaintances were the principal sources of job information, with employment agencies a much smaller but still significant source.

5.28 Second, the model presupposes that people accept work in the informal sector only as a second best interim solution, until they can find employment in the formal sector. Studies on urban labor markets, however, provide little support for this view, indicating instead that people move freely from one to
the other, sometimes holding jobs and earning income in both sectors simultaneously. (See for example House 1984.)

5.29 Third, it assumes that the basic decision-maker is the individual, rather than the household. But as Stark (1980) has pointed out, it is often more appropriate to treat individuals as part of a household in order to better understand their behavior, and to explain the diversity of labor movements.

5.30 While wage differentials certainly exist between rural and urban areas, they may not be a good indicator of migration flows, nor as great as previously supposed, particularly after taking into account the differences in cost of living. In Thailand, Binswanger (1983a) estimated that while the rural-urban differential in the north of the country was about 35-50 percent, it was only 10-20 percent in the center, and had disappeared or was even reversed in the south. He also found that wage differentials for particular occupations were relatively insignificant, and suggested that rural-urban differences in aggregate average wage levels might be better explained by the mix of skills represented in each region.

5.31 In seeking to identify the determinants of rural workers' propensity to migrate, researchers have focused on a variety of other indicators, such as age, level of education, household size, the number of household members of working age, potential income at the destination, and farm size. In India, Singh (1977) found income level and education to be the most powerful factors having a positive influence on the propensity to migrate, while family size had a positive though weak effect. Older individuals, and those from households with larger farms, tended on the other hand to be less likely to migrate.

5.32 A more fruitful way of thinking about determinants of labor mobility at the origin is the balance between the growth of labor and the capacity of agriculture to absorb additional workers productively. As Saint and Goldsmith (1980) observed, based on a study of Cruz das Almas, a municipality in the north-eastern state of Bahia in Brazil, outmigration occurs when demographic pressure on the farm exceeds the capacity of labor intensive cropping systems to maintain the family.

5.33 This is related in part to technological innovation. Ishikawa (1967, 1978) distinguishes between land-augmenting technological change, which raises output per unit of land and thereby facilitates greater use of labor, and labor-saving technological change that leads to a reduction in the use of labor. Based on an analysis of a number of Asian countries, he argues that during initial stages of development, technical change of the former variety is more prevalent, resulting in a progressive rise in labor input per unit area. Then, as development advances, labor-saving technical changes start to predominate, leading eventually to a decline in the labor intensity of agriculture.

5.34 As a World Bank (1988a) report documents in Pakistan, technological changes can also have indirect effects on labor employment in agriculture. The Green Revolution not only brought about increased mechanization, but the prospect of higher returns also induced absentee landowners to resume cultivation of their own farms. This apparently lead to a reduction in the number of people working in agriculture due both to the dispossession of tenant farmers, and the
replacement of "permanent" hired labor on large and medium-sized farms with casual labor for specific operations as the need arose.

5.35 A number of factors have also been found to constrain labor mobility, particularly social conventions and ethnic differences. In his Pakistan study, Klennert (1986) reports that the major factor preventing more farm households from obtaining nonfarm employment were social and cultural. Most of the traditional nonfarm occupations practiced locally were not open to the land-owning caste, and opportunities beyond commuting distance could only be pursued if there was another male in the household to take over management of the household farm.

5.36 Similarly, in Kenya, Livingstone (1981 p. 4) reports that, due to social barriers and ethnic identification, labor exhibits a strong preference for working within its own zone. Social barriers based on strong ethnic identification limit mobility between zones and in particular mobility within smallholder agriculture. Apart from social barriers, the author suggested that additional labor market imperfections arose from ignorance of job openings on the part of job-seekers, and potential sources of labor on the part of those seeking workers. The availability and cost of housing was also found to be another factor affecting mobility, particularly seasonal labor.

Impact of Migration on Urban and Rural Areas

5.37 Conventional wisdom has it that out-migration from rural areas tends to be to the advantage of cities and towns, at the expense of the rural areas. Since the people most likely to leave are the better educated, the young, and often the men, the sending areas are deprived of future community leaders and innovators, leaving only the older and less skilled behind.

5.38 In part, this may be true, but it is not the full picture. While the better educated may be more prone to leave, this does not mean that there are no capable people left behind. On the contrary, those that are more successful at farming are more likely to remain in agriculture, and to open up new businesses in the same locality. Such a trend is well documented in Kenya, for example. (See Kitching 1977, Collier & Lal 1984, and Bendavid-Val 1988.)

5.39 Furthermore, as Rempel (1977) points out, out-migration relieves population pressure in home areas, particularly where the movement is permanent. By reducing the size of the household, fewer members are left behind to share available land, and the income from farming which it yields, implying higher effective per capita incomes.

5.40 Finally, and perhaps most importantly, the decision to leave for the city is usually made with the intention of generating additional income for the rural household. Almost invariably, especially among poorer families, those that take jobs in the city, or go there to pursue their own business, do so with the expectation that some share of their earnings will be sent back to their families in the country.
C. Remittances

Prevalence, Direction, and Magnitude

5.41 As indicated in Chapter IV, remittances often form a significant part of household income, especially among poorer families. Those who have studied the subject report that the remitting of income is widespread. In Kenya, Anker & Knowles (1983) report that 87 percent of urban wage earners remit income regularly to their rural home areas. In a study of West Javan migrants, Hugo (1983) found that students aside, some 95 percent of permanent migrants in the urban workforce had remitted money to their place of origin in the year prior to the survey.

5.42 Remittances are usually talked about in terms of the flows from urban to rural areas, although as Knowles and Anker (1981) point out, that is only part of the story. Based on work in Kenya, they have estimated that 50.4 percent of the total volume of interhousehold transfers go from urban to rural areas as compared to only 6.3 percent from rural to urban areas. A further 15 percent of total remittances is estimated to be between urban areas, but a surprising large 28.3 percent of the total moves from one rural area to another. (See Table 5.1 below.)

<table>
<thead>
<tr>
<th>Direction of Flows</th>
<th>Number of transfers</th>
<th>Percent of transfers</th>
<th>Percent of total amount transferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban to rural</td>
<td>431</td>
<td>37.0</td>
<td>50.4</td>
</tr>
<tr>
<td>Urban to urban</td>
<td>119</td>
<td>10.2</td>
<td>15.0</td>
</tr>
<tr>
<td>Rural to Urban</td>
<td>76</td>
<td>6.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Rural to rural</td>
<td>540</td>
<td>46.3</td>
<td>28.3</td>
</tr>
<tr>
<td>Totals</td>
<td>1166</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>


5.43 Most studies concur that urban to rural flows are larger than the reverse, although significant rural to urban flows do occur. In Kenya the lowest income urban households are generally speaking net receivers of remittance flows, while most other urban households are net senders. Among rural households, the lowest income households are also net recipients, the middle income households receive only a little more than they send, but the wealthier households send more than they receive. (Knowles and Anker 1981, p. 212).
5.44 Rural to urban remittances are usually associated with a business of some kind, or the education of children. In west Javan cities, Hugo (1983) reports that 21 percent of the households surveyed had received regular remittances from their village families, most of whom were students whose tuition and living costs were met by their parents. Lipton (1980) also found in India that the level of rural-to-urban remittances was related to the number of student out-migrants.

Factors Affecting the Flow of Remittances

5.45 As Trager (1984) points out in her studies of rural households in the Philippines, remittances and other exchanges should be examined in their socio-cultural context, since beliefs and values regarding reciprocity and obligations among family members vary widely. Many writers think of senders and receivers as independent entities. Knowles and Anker (1981), for example, interpret the urban migrant's motive for sending remittances as an insurance policy against the possibility of having to return home at some point in the future. They observe that as the migrant's status in the city becomes more secure, remittances tend to decline.

5.46 However, Stark (1980) argues that it is more appropriate to think of the household as the relevant decision-making unit, and where appropriate to treat senders and receivers as part of the same household. In his view, remittances from members of the household working elsewhere are merely part of a larger strategy to generate income from multiple sources in order to insure against possible setbacks in any one activity, especially farming.

<table>
<thead>
<tr>
<th>TABLE 5.2: SENDING AND RECEIVING OF REMITTANCES AS A PERCENTAGE OF INCOME.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households by income</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Low income</td>
</tr>
<tr>
<td>Middle-income</td>
</tr>
<tr>
<td>Upper-income</td>
</tr>
<tr>
<td>All household</td>
</tr>
</tbody>
</table>


5.47 The scale of remittances is closely associated with the household's income level, and is found to be highly income inelastic. As Collier & Lal (1984) found from a survey of rural households in Kenya, poor urban households remitted a considerably higher proportion of their income than richer households. (See Table 5.2.)
5.48 The proportion of remittances in the total income of rural households is also closely associated with the type of migrant from that household. Based on data from Java, Hugo (1983) shows that remittances are most important in households with commuter migrants, making up 60 percent on average of their total income. This is because there is little seasonal or daily fluctuation in commuter migration as is the case with circular migration. However, remittances from circular migrants still account for nearly half of the total income of their household of origin, while receipts from permanent migrants fall off sharply to only 8 percent. (See Table 5.3.)

<table>
<thead>
<tr>
<th>Item</th>
<th>Commuters</th>
<th>Circular migrants</th>
<th>Permanent migrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents</td>
<td>193</td>
<td>463</td>
<td>411</td>
</tr>
<tr>
<td>Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>184.4</td>
<td>129.9</td>
<td>171.9</td>
</tr>
<tr>
<td>Intervillage Range</td>
<td>72-354</td>
<td>83-239</td>
<td>102-272</td>
</tr>
<tr>
<td>Remittances Received</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>111.0</td>
<td>61.9</td>
<td>13.7</td>
</tr>
<tr>
<td>Intervillage Range</td>
<td>25-145</td>
<td>27-88</td>
<td>8-20</td>
</tr>
<tr>
<td>Remittances as % of Household Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>60.2</td>
<td>47.7</td>
<td>8.0</td>
</tr>
<tr>
<td>Intervillage Range</td>
<td>24-91</td>
<td>16-69</td>
<td>4-14</td>
</tr>
</tbody>
</table>

(Contribution of remittances from commuters, circular migrants, and permanent migrants in urban areas to the income of their households of origin in West Javan survey villages, July 1972 to June 1973.)

* US $1 = Rp 420 at time of survey

Source: Hugo (1978, p. 25)

5.49 Several other determinants also affect the flow of remittances. Based on regression analysis of their Kenya data, Knowles and Anker (1981) concluded that the transfer of remittances is more likely to take place in households where the head is male, is residing in an urban area, is a migrant owning a house in
his home area, or has a wife residing elsewhere. The decision to make transfers is also positively and significantly related to the income of the sending unit (but not the receiving unit), the number of years of education of the household head, and the number of household members (other than the wife and children) who are residing away from home. It is negatively and significantly related to the length of time the migrant has been away from his home area, and the ownership of a farm or business at his current place of residence. Similar findings are reported by Hugo (1983) in Java, Kothari (1980) and Lipton (1980) in India.

**Impact on Urban and Rural Areas**

5.50 Many studies that attempt to evaluate the impact of remittances on sending and receiving areas conclude that the net effect is usually not great. Hugo (1983) concludes from a review of several studies (Amin, 1974; Connell, 1981; Lipton, 1977, 1980; Rempell and Lobdell, 1978) that the effect of money flows to villages of origin in developing countries is small and in many cases may even be negative. It is argued that transfers are simply a redistribution of resources among income groups, regions or types of expenditure. (See for example Mukras et al 1985.) This line of thinking leads to the conclusion that income transfers do not represent the creation of new wealth, and do little to benefit the recipient rural areas, other than to alleviate poverty among the poorest households. In their review of earlier studies, Rempel and Lobdell (1978) specifically examined claims that urban-to-rural remittances helped to remove constraints in agricultural production. They concluded, however, that there was little evidence to support such claims, and that remittances were unlikely to contribute significantly to rural development.

5.51 However, several authors writing before and after Rempel & Lobdell have taken a different stand, arguing that remittances can yield significant benefits for recipient regions. Griffin (1976) contends that the net effect of remittances on out-migration villages is positive. Singh (1977) reported that in hill areas of northern India, a region where conditions for farming are marginal, remittances from migrants contributed more than two fifths of total income in the region. Stark (1980), responding directly to Rempel & Lobdell, argues that urban-to-rural remittances facilitate the adoption of technological change in agriculture by overcoming credit constraints, and providing a form of insurance against the inherent risks of farming. Evidence in support of this view comes from Collier and Lal (1984) among others, who found that in Kenya remittances and income from urban-based non-farm sources largely explains the differential rates of innovation amongst smallholders.

5.52 Remittances are a form of export earnings, in this case the export of labor, and whether they yield significant benefits or not to recipient regions depends on two considerations: the net amount of revenue accruing from the flow of remittances into and out of the region; and the marginal impact such revenues have on the local economy, which is a function of the way they are used. Net flows clearly vary from one region to another and from one time period to another. While many studies conclude that they are of minor importance, there are instances where remittances from family members working elsewhere have clearly represented a substantial increment to local income, such as the transfers from migrant workers in the Middle East to Somalia (Jamal 1988) and Pakistan (World Bank 1988a).
5.53 This extra income, as with any income from exports, may benefit the regional economy in two ways: through consumption expenditures and investment. To evaluate the impact of additional consumption in a given region requires an understanding of the composition of household spending and local demand, as discussed in Chapter III, and a knowledge of how that demand is being met. To assess the impact of additional investment resulting from remittances requires an understanding of how local households allocate their savings between local enterprises--their farms and other businesses--and nonlocal ventures, for example through bank deposits and suchlike. The first issue was discussed to some extent in Chapter IV. The second issue brings us to the subject of financial institutions, and capital flows, which follows next.

D. Movement of Capital

Financial Intermediaries

5.54 Apart from intra-household transfers, which were discussed above, savings and capital flow between rural and urban areas through financial markets. At early stages of development, these markets rely primarily on moneylenders, and capital circulates mainly within the local community, there being little exchange with places outside. However, as the economy evolves, a greater variety of financial institutions come into play, extending over larger areas, connected to more distant urban centers.

5.55 In traditional societies, the primary financial intermediary is the moneylender, who is typically a rich merchant, trader or landlord. There is ample evidence that they still play a vital, sometimes primary, role as a source of credit for rural households in many countries. Surveys in the Philippines carried out between 1950 and 1980 reveal that 74 percent to 93 percent of farmer-borrowers obtained loans from moneylenders of one kind or another in the informal sector, often accounting for more than 80 percent of the number of loans, and more than 50 percent of the value of all loans. (See Agabin 1983.) Over the years, however, it appears that the informal sector share of total lending may have declined. While surveys from the 1950s indicate that 75 percent or more of total loans came from the informal sector moneylenders, surveys from the 1970s were commonly reporting figures of 50 percent or lower. Informal sector lenders generally charge substantially higher interest rates than the formal sector institutions, although again it appears that these have also declined over the years.

5.56 The shrinking role of moneylenders, and the drop in the interest rates they charge, is attributed to the gradual spread of formal sector institutions, particularly commercial banks, which tend to be the first to venture out from the largest cities to smaller towns and rural areas. In Kenya, for example, David (1981) reports that prior to 1971 institutions for obtaining credit in rural areas were extremely limited, but that by 1976, following a concerted effort by the Kenya Commercial Bank, they had established 30 branches outside the three largest cities, and instituted mobile bank units to serve other market towns.

5.57 Alongside the commercial banks, governments have often set up specialized institutions to provide credit to farmers, often at below market
interest rates. Interest rates are often subsidized to encourage borrowing by poor farmers, on the grounds that supply-leading finance can stimulate agricultural development and rising productivity (Von Pischke 1980). In practice, however, subsidized interest rates have not achieved the intended goals. Instead, they have resulted in corruption among administrators, and have encouraged investments that would not otherwise be viable.

5.58 Loans from commercial banks and specialized institutions have largely bypassed poorer farmers. Gonzalez-Vega (1983) estimates that only 5 percent of farmers in Africa, and 15 percent of those in Latin America had access to credit from formal sources. According to his analysis, some 5 percent of borrowers received 80 percent of the loans distributed. In other words, a small fraction of all farmers received 80 percent of available subsidized credit, about 10 percent benefitted from the remaining 20 percent, and 85 percent did not share in the process at all.

5.59 Several other financial mechanisms have been devised to mobilize savings and provide credit for farmers and owners of small businesses, including rotating savings and credit associations (ROSCAs), and group lending schemes. ROSCAs are found throughout much of the developing world, and consist of a group of people who make regular contributions to a fund which is given to each member in turn. Since ROSCAs are organized and administered by their own members, they usually operate independently of formal financial systems. Large amounts of cash are often involved, though empirical studies are scanty. According to Ethiopia's national development plan for the period 1968-73, annual savings generated through these associations were estimated to be between 8 percent and 10 percent of GDP. In the state of Kerala in India, chit funds as they are locally called, form 20 percent of all bank deposits. (See Bouman 1977, and World Bank 1989a, Ch. 8.)

5.60 Group lending schemes involve loans to groups of participants, typically ten to thirty. Security for repayment is provided by joint liability. If default occurs, credit to the entire group is stopped until the default is corrected. The idea was first introduced in 1973 in the Lilongwe Land Development Project in Malawi, and has since been applied in many other countries, a well known example being the Grameen Bank in Pakistan. (See 5.2)

Direction and Magnitude of Capital Flows

5.61 Countless writers have concluded or implied that over the longer term there is a net flow of capital from rural to urban areas in almost every country of the world. This is seen to be an inherent part of the process of economic development, as surpluses generated in agriculture are used to finance the expansion of commerce, services and industry. An extreme example is Stalin's industrialization of the Soviet economy through forced savings from the rural sector, though proponents of the urban bias theory also claim that in the less developed countries of the world today rural surpluses are constantly being syphoned off to finance development of the urban sector (Lipton 1977).

5.62 Specific empirical studies to measure capital flows between a rural area and the rest of the country are rare. One of the few is the study of the Muda region in Malaysia, which states that the outflow of capital from the region was very large, estimated to be more than 8 percent of its gross domestic product
BOX 5.2: THE Grameen Bank in Bangladesh

Credit programs in rural areas are often confronted with the problem of how to extend small loans to large numbers of poor people, most of whom lack collateral, and by conventional standards are often regarded as a high risk group. The Grameen or "village" Bank, launched in Bangladesh in 1979, is a remarkable example of a group lending scheme designed to overcome these problems.

Farmers owning half an acre of cultivable land or assets equal in value up to one acre of medium quality land are eligible for membership in this scheme. Each bank branch, covering 15-22 villages, consists of a field manager and several supporting staff. To obtain credit, farmers must form themselves into a group of five members, and elect a chairman. Groups meet weekly and credit is first awarded to two members. Once repayments have been satisfactorily maintained over a period of two months, the remaining members become eligible to receive credit. Each member of the group is required to save an agreed amount per week, and to repay 5 percent of any outstanding loan. Together, these contributions form the group's fund. In addition, members pay one quarter of the interest charges into the group's emergency fund, which is used in times of default, death or disability.

The bank charges 16 percent interest on loans, although the effective rate of interest works out at around 30 percent after other obligations and lending requirements are taken into account. In spite of the high interest rates, however, the Grameen Bank scheme has proved to be a huge success, with membership having reached 200,000 households by April 1986. Evaluation studies indicate that the scheme is effective in reaching the target group, i.e., the poor small-scale farmers, and that only an insignificant amount --about 5 percent--of loans are diverted to unproductive uses. The most remarkable aspect has been the repayment rate: almost all loans are usually repaid within the first two years. The success of the Grameen Bank in Bangladesh demonstrates that given the proper incentives, rural savings in developing countries can be effectively mobilized for productive purposes.

(Bell Hazell and Slade 1982 p. 130). This is attributed mainly to the lack of suitable investment opportunities in the region.

5.63 However, there is also evidence to suggest that in some countries there have been considerable reverse flows from urban to rural areas. Krishna (1982) has estimated for India that in all but three of the eighteen years between 1956 and 1973, net domestic capital formation in agriculture exceeded net rural household savings, implying that the urban sector has been making a net contribution to capital formation in agriculture. This claim is also supported by the fact that during the period 1950 through 1974 the growth rate of rural household saving has remained below the rate for all-India households, while the growth rate of agricultural investment has exceeded the rate for all-India investment.

5.64 Of the various financial institutions and mechanisms described above, some are engaged more than others in the channelling of financial resources between rural and urban areas. Moneylenders and rotating savings and credit associations tend to circulate only within an immediate local area, extending only as far as the members of the association or the network of business acquaintances of the moneylender, most of whom are likely to reside in the same village or town. Nevertheless, even informal financial mechanisms can channel money from rural areas to towns without there being a reverse flow of investment. As Harriss and Harriss (1984) have recorded in the North Arcot district in India, rather than being returned to agriculture, returns from pawnbroking are invested
in real property and vehicles, ploughed back into pawnbroking, invested in shares in finance corporations, or saved for education and dowries.

5.65 Commercial banks, agricultural credit institutions, and group lending schemes, on the other hand, are more actively involved in transferring resources between rural and urban areas. Commonly, commercial banks tend to collect more in savings from rural depositors than they lend to rural borrowers, transferring the balance to urban centers where demand is greater, loans are more secure, and potential profits are thought to be greater.

5.66 However, governments may intervene to require or encourage commercial banks to increase their lending in rural areas. As David (1981) documents, the government of Kenya in 1971 purchased a 60 percent interest in the Kenyan Commercial Bank, which shortly thereafter announced its intention to redistribute in the form of rural loans, not less than half of the deposits which are generated in those same rural areas. By the same token, though, more than half of its rural deposits were evidently being transferred to urban areas at that time.

5.67 Agricultural credit institutions, on the other hand, often have a specific mandate to increase the availability of investment capital to farmers and other rural producers. As such, they are more likely to shift capital resources to rural areas, since their funds often come from statutory deposits from other banks, or loans from the central government.

Factors Affecting Capital Flows

5.68 Several factors affect the flow of capital between urban and rural areas, of which three merit attention here. On the supply side, the propensity to save determines the rate at which savings are accumulated in rural areas. The demand for capital in rural areas will depend on potential rates of return in agriculture or other rural enterprises compared with opportunities in urban areas. The extent to which demand is matched by supply depends on the performance of financial intermediaries in channelling resources in the right direction.

(a) The propensity to save.

5.69 The propensity of rural populations to save is seen to be a function of income and investment opportunity. Until relatively recently, little effort was made to mobilize savings of the rural population, because it was assumed that most were too poor to save. However, the minimum income threshold at which savings can begin is likely to be lower in rural areas than cities, due to lower costs of living, the household's greater capacity to feed itself, and the more limited availability of consumption goods. From their study of rural savings in India, for example, Krishna & Raychaudhuri (1982) concluded that real per capita incomes need to rise only 10 percent above the poverty line before a typical household starts to save.

5.70 Other empirical studies support the notion that rural households can and do save. Table 5.4 compares the findings of a number of surveys on rural savings in different countries spanning the period 1960 to 1980. From this it can be seen that the average propensity to save ranges from 7.0 percent of
household income in India to 33 percent in Korea, and the marginal propensity to save from 22 percent in India to 56 percent in Taiwan. The low rates reported by Krishna for India reflect the fact that over 40 percent of the rural population still remained below the poverty line at that time.

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>APS</th>
<th>MPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1970-71</td>
<td>6.9</td>
<td>22.0</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1974</td>
<td>31.0</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>1973</td>
<td>22.0</td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>1974</td>
<td>33.0</td>
<td></td>
</tr>
<tr>
<td>Punjab (India)</td>
<td>1969-70</td>
<td>34.0</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>1970</td>
<td></td>
<td>34.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>56.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>46.0</td>
</tr>
</tbody>
</table>


5.71 In countries for which time series are available, there is widespread evidence that average propensities to save tend to rise. (See Table 5.5.) Adams (1978) notes that in Japan it rose from 10 percent in 1950 to 22 percent by 1973, while in South Korea it rose dramatically from a low 4 percent in 1965 to an unusually high 33 percent in 1974, with smallholders recording 22 percent, still a comparatively high figure.

5.72 In part, these increases may simply reflect the rise in income levels that took place during these periods. But more significantly, there is evidence to indicate that households save more when presented with increased incentives and profitable investment opportunities. In India, Krishna (1982) reports that there was a significant step-up in the savings ratio among rural households in the years beginning 1965-66, when agricultural price supports and new technology were introduced. Further, he finds that while the savings rate for all rural households in the period 1966-74 was a low 3.5 percent of net income, it was three to fifteen times higher in numerous irrigated regions where new technology had been introduced.

(b) Opportunities for investment.

5.73 A second factor which affects the flow of capital between rural and urban areas is the relative attractiveness of alternative investment
opportunities. It was argued in Chapter IV that the rural household aims to diversify its sources of income in order to reduce the risks associated with farming. Once this is achieved, however, the decision to invest available savings in farming or nonfarm ventures is likely to depend in part on the potential returns to be gained.

5.74 The rates of return on investments in agriculture and nonfarm activities depend in part on the domestic terms of trade, which is discussed in Chapter VI. They also depend on advances in technology in each sector, especially in industry and agriculture, and the potential for adopting innovations. Normally technological advances favor nonfarm activities, but advances in agricultural technology can also lead to substantial increases in investment in that sector, as witnessed by the Green Revolution in Pakistan, India and other countries.

5.75 Attractive opportunities for investment in rural areas may also arise from the growth of agriculture and rising rural incomes. In evaluating the impact of an irrigation project in the Muda region of Malaysia, Bell et al (1982 p. 187) report that savings were diverted from other uses to finance the balancing investments needed to increase the region's output of non-traded goods. They estimate that each dollar of downstream value added was probably supported by just over a dollar of additional investment in plant equipment in sectors that expanded in response to the project. In other words, local investment opportunities can attract savings that might otherwise be invested in urban activities.

(c) Functioning of financial intermediaries.

5.76 The third factor affecting the flow of capital between urban and rural areas is the functioning of the financial institutions themselves, and the extent to which they either exacerbate constraints or alleviate them. Evidence seems fairly clear that once banks and other financial institutions are established in a town, they are able to attract savings deposits if real interest rates are positive. On the other hand they seem to be far less effective in lending to borrowers, and making capital available to potential investors. The chief obstacles usually identified are the cumbersome and time-consuming administrative procedures, and the stiff requirements for borrowing, especially the need for collateral. Small holders in particular find this a major obstacle, in part because official land registers are either incomplete, out of date, or simply non-existent.

5.77 Another factor which affects the capacity of financial institutions to mobilize savings and to operate effective lending programs is their geographical diffusion among rural areas, and physical accessibility to potential savers and borrowers. In the Department of Potosí in Bolivia in 1980, for example, banks were to be found in only ten towns throughout a region of 118,000 square kilometers serving a population of over 650,000 people. A region-wide household survey on accessibility to urban services found that on average the time taken to make a trip to the bank was 1 hour and 20 minutes. Under such conditions, it was no surprise to discover that only 5.5 percent of households used banks, making an average of only 12 visits a year (Evans 1982). When banks are so inaccessible, they are unlikely to function effectively either in mobilizing savings or in channelling funds to potential new ventures.
<table>
<thead>
<tr>
<th>Year</th>
<th>Taiwan Farm Size</th>
<th>Japan Farm Size</th>
<th>Korea Farm Size</th>
<th>India (Ludhiana District) Farm Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Medium</td>
<td>Large</td>
<td>Small Medium</td>
<td>Large</td>
</tr>
<tr>
<td></td>
<td>0.13</td>
<td>0.14</td>
<td>0.11</td>
<td>0.13</td>
</tr>
<tr>
<td>1961</td>
<td>0.17</td>
<td>0.20</td>
<td>0.16</td>
<td>0.15</td>
</tr>
<tr>
<td>1962</td>
<td>0.22</td>
<td>0.27</td>
<td>0.15</td>
<td>0.22</td>
</tr>
<tr>
<td>1963</td>
<td>0.16</td>
<td>0.23</td>
<td>0.38</td>
<td>0.10</td>
</tr>
<tr>
<td>1964</td>
<td>0.16</td>
<td>0.23</td>
<td>0.36</td>
<td>0.68</td>
</tr>
<tr>
<td>1965</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.23</td>
</tr>
<tr>
<td>1966</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.68</td>
</tr>
<tr>
<td>1967</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.68</td>
</tr>
<tr>
<td>1968</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.23</td>
</tr>
<tr>
<td>1969</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.90</td>
</tr>
<tr>
<td>1970</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.90</td>
</tr>
<tr>
<td>1971</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.90</td>
</tr>
<tr>
<td>1972</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.90</td>
</tr>
<tr>
<td>1973</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.90</td>
</tr>
<tr>
<td>1974</td>
<td>0.23</td>
<td>0.25</td>
<td>0.36</td>
<td>0.90</td>
</tr>
</tbody>
</table>

Source: Adams (1976), Ong et al. (1976)

Note: For all the countries except India:
- small farms = 0.5-1.0 hectares,
- medium = 1.0-1.5 hectares, and
- large = 2.0 hectares or more.

For India:
- small units < 3.5 hectares,
- medium = 3.5 to 6.0 hectares, and
- large > 6 hectares.
VI. GOVERNMENT POLICIES AFFECTING RURAL-URBAN EXCHANGE

6.1 As several authors have pointed out, (Alonso 1972, Richardson 1980, Renaud 1981, Hamer 1985, Evans 1989a), many macro-economic and sectoral policies exert a powerful influence on the spatial pattern of development. These policies affect both the nature of transactions between producers, traders, and consumers, and also the flow of resources among towns and their hinterlands. This chapter looks at a number of particularly significant policies, including those which affect rural-urban terms of trade, those which govern the distribution of agricultural inputs and the marketing of farm outputs, and those which are concerned with the provision of physical infrastructure and services.

A. Domestic Terms of Trade

6.2 No single factor affects the nature of rural-urban linkages more than the domestic terms of trade between agriculture and the rest of the economy. Policies governing the relative price of farm and nonfarm goods directly affect the level of income accruing to farmers, the price of food paid by consumers, wage differentials between farm and nonfarm jobs, and ultimately the propensity for labor to seek employment outside agriculture, and thus to migrate to urban areas. The impact of domestic terms of trade on rural-to-urban migration is illustrated by Kelly & Williamson (1984), who identify this as one of the key determinants affecting the rate of urbanization. The disincentives to agricultural producers arising from adverse domestic terms of trade are also regarded as one of the major cases of the decline in agricultural production in Africa over the past couple of decades (Lofchie 1986).

Evidence of Bias in Domestic Terms of Trade

6.3 Empirical reports on the effect of government policies in developing countries on domestic terms of trade between agriculture and non-agricultural sectors, or between rural and urban sectors, arrive at widely differing conclusions. A number of writers, notably Lipton (1977), claim that public policy is often inherently biased in favor of urban residents at the expense of the rural population. Some studies find no consistent evidence of bias one way or the other, while others report cases where policy discriminates in favor of agriculture and rural areas.

6.4 An inherent bias in the terms of trade against the agricultural sector arises from three sources: overvaluation of the domestic currency which results in reduced potential earnings for exporters of agricultural produce; price controls which favor the consumer at the expense of the producer; and a tariff structure which favors manufacturing over agriculture. Estimates of nominal protection coefficients resulting from government policies show that the production of agricultural commodities in developing countries is frequently taxed, while in industrial countries it is more often subsidized (Bale & Lutz 1979, World Bank 1986). As Colclough (1985) indicates, the bias against agriculture has been particularly severe in many African countries. There, the combined effects of taxation, inefficient marketing arrangements, and currency overvaluation have often reduced returns to produces to less
**BOX 6.1: METHODS OF MEASURING TERMS OF TRADE.**

The expression "terms of trade" refers to a comparison of prices at which trade takes place between two sectors of the economy. Between countries, the comparison may be between imports and exports, but within a country it may be between rural and urban sectors, or between agriculture and non-agriculture. Shifts in the terms of trade indicate a deterioration or improvement in one sector relative to another. Several methods may be used to measure terms of trade, but common to all of them is the notion of valuing farm output or income in terms of nonfarm goods and services.

Commonly, movement in the terms of trade is measured by comparing changes in the prices received by farmers for agricultural produce sold with changes in prices paid by farmers for items bought. This form of comparison is usually referred to as "net barter terms of trade." The purchased items used for comparison may be production inputs, consumption items, or a combination of both. This is the simplest and most direct method of comparison, and can be based on data series for price indices which are usually available in most countries. This method is used for example by Nolan & White (1984), Rehnberg (1977), and Sharpeley (1981).

A second form of measurement is known as "income terms of trade." (See for example Dodge 1975, Ellis 1982, and Jabara 1985.) Here the comparison is made in terms of changes not only in price, but also in quantity or volume of agricultural output sold, hence earnings or income. This method may yield results that are quite different from calculations based on barter terms of trade. A study by Fry (1975) in Zambia, for example, revealed that barter terms of trade fell by 21 percent between 1964 and 1973, while income terms of trade increased by 150 percent. A problem with this method is that it is not always apparent how much of the gain is attributable to an increase in individual farm household income, and how much to an increase in the number of farmers entering the market. Fry concludes that, after allowing for the increase in the number of commercial peasant farmers, real farm incomes probably rose a more modest 32 percent between 1964 and 1971.

The point of measuring income terms of trade is that while prices in one sector may fall relative to the other, this may be more than offset by gains in income. It is often argued, for example, that while rises in the price of farm goods may lag behind nonfarm goods, rural households may be able to compensate by increases in productivity and incomes.

A third method of measuring rural-urban terms of trade is by reference to world prices, though few examples exist in the literature. Estimates of nominal protection coefficients (NPCs) for agricultural produce, especially in African countries, often reveal that actual prices received by farmers are below world market prices (e.g., Colclough 1985). This is sometimes used as evidence of bias in the terms of trade against the rural sector. More correctly, NPCs for agricultural commodities should be compared with those for nonagricultural commodities, to determine the extent to which macro policies favor one sector over another.

than half their real value as measure by international prices. In Egypt, Korayem (1981) argues that the majority of the rural population are taxed implicitly more than they are subsidized explicitly, and that the pricing policy is negatively biased against farmer income.
6.5 A similar bias in domestic terms of trade is also evident in Asian countries. In Thailand, for example, various authors have documented the extent to which tax, pricing, and trade restrictions have generally discriminated against agriculture in favor of manufacturing. Binswanger (1983b) concludes that economic policies biased against agriculture have had a much greater impact on rural households than policies aimed at subsidizing agriculture or improving returns to nonfarm employment.

6.6 Other studies, however, show no clear bias for or against agriculture. Using more recent data on wheat prices from 31 developing countries in the early 1980s, Byerlee and Sain (1986) find that an approximately equal number of counties taxed and subsidized producers, and that in most cases, explicit government fiscal subsidies to consumers have played a much larger role than low producer prices in policies for cheap urban food. What may be true for wheat, however, may not necessarily hold true for other food staples, such as rice, maize, and beans.

6.7 Terms of trade, of course, are constantly shifting over time, as policies are revised, and market conditions change, sometimes to the detriment of the rural sector, sometimes to its advantage. (See Table 6.1.) Based on estimates in China over the period 1950 to 1981, Nolan & White (1984) conclude that the terms of trade modestly favored rural areas initially but overall have generally remained fairly constant. In Taiwan, on the other hand, Mellor (1976) using data from Lee (1971) reports large net transfers from agriculture, resulting in part in a shift in relative prices against the agricultural sector, achieved through a barter exchange of rice for fertilizer and compulsory purchase programs, as well as earlier fiscal programs. In Tanzania over the period 1969-80, Ellis (1982) finds that there was a substantial fall in the real prices of crops, which, when coupled with a deterioration in the efficiency of agricultural marketing, suggests that price policy has had a major adverse impact on peasant living standards. In Zambia, Chambers and Singer (1981) estimate that the rural-urban barter terms of trade shifted against rural producers from a base of 100 in 1965 to 35.5 in 1979, due in part to government consumer subsidies, especially on maize meal.

6.8 Other studies, however, document improvements for agriculture in the terms of trade, which runs counter to the widely held belief that pricing policy in developing countries has been uniformly biased in favor the urban sector. In Kenya, Jabara (1985) shows that during the 1972-73 to 1982-83 period, producer prices for major crops generally increased at a faster rate than agricultural input prices, and finds that agricultural pricing policy has been used to create incentives for growth of marketed agricultural production, and for promoting development of smallholder farming.

6.9 In Korea, after bad grain harvests in the late 1960s, the government initiated concerted efforts to promote agricultural development after largely ignoring it, resulting in a dramatic reversal of urban-rural terms of trade during the early 1970s (Song 1981). In Nigeria, Mukhtar (1987) reports a marked positive change in producer pricing policy between 1964/73 to 1983, as a result of which prices received by producers of export crops rose steadily from half the prevailing world market price during 1964-73, to around three-quarters during
<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Direction</th>
<th>Indicator</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1950-81</td>
<td>Strongly in favor of agriculture</td>
<td>a/b</td>
<td>Nolan and White (1984)</td>
</tr>
<tr>
<td>India</td>
<td>1952-53 to 1963-64</td>
<td>Against agriculture</td>
<td>a/b</td>
<td>Tyagi (1987)</td>
</tr>
<tr>
<td></td>
<td>1964-65 to 1974-75</td>
<td>First in favor, then against</td>
<td>a/b</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1975-76 to 1983-84</td>
<td>Modestly against agriculture</td>
<td>a/b</td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>1964-72</td>
<td>In both periods, first</td>
<td>c/d</td>
<td>Sharpley (1981)</td>
</tr>
<tr>
<td></td>
<td>1972-77</td>
<td>against then in favor of agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>1972-73</td>
<td>In favor of agriculture</td>
<td>e</td>
<td>Jabara (1985)</td>
</tr>
<tr>
<td></td>
<td>1982-83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>1963-69</td>
<td>Against agriculture</td>
<td>a/b</td>
<td>Rehnberg (1977)</td>
</tr>
<tr>
<td></td>
<td>1969-73</td>
<td>In favor of agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td>1969-80</td>
<td>Against agriculture</td>
<td>f</td>
<td>Ellis (1982)</td>
</tr>
<tr>
<td>Zambia</td>
<td>1964-73</td>
<td>Against agriculture</td>
<td>a/b</td>
<td>Fry (1975)</td>
</tr>
<tr>
<td></td>
<td>1964-73</td>
<td>In favor of agriculture</td>
<td>g/h</td>
<td></td>
</tr>
</tbody>
</table>

Note:

a = prices received for agricultural produce sold in urban areas;
b = prices received for urban consumer goods sold in rural areas;
c = prices received by farmers for agricultural sales;
d = prices paid by farmers for producer and consumer items purchased from the non-agricultural sector;
e = nominal output prices deflated by index of purchased agricultural input prices;
f = weighted average producer prices deflated by modified consumer price index;
g = weighted index of agricultural income (prices x quantities); and
h = cost of living index for rural areas.
1974-77, and between 80 percent and 127 percent by 1983. Similar increases are noted by Colclough (1985) during the 1970s in other African countries.

6.10 What do we conclude from these conflicting reports? To some extent the results reflect different methods of measurement, and different time periods used by various authors. (See Box 6.1.) More importantly, bias in policy tends to reflect the constituencies of the decision-makers. Bates (1981) notes that in Ghana, where major rice farms are owned by high-level public servants, rice is sold at domestic prices higher than world market prices. Ellis (1984) finds urban bias in Tanzania, an avowedly socialist country modelled along anti-urban lines, and rural bias in Fiji, a capitalist economy with little intervention in markets. He explains this anomaly in terms of an analysis of class interests and the state. In Tanzania, there was a total neglect of peasant participation in matters affecting their welfare, while in Fiji small farmers were strongly represented in the political structure of a pluralist state.

6.11 Nevertheless, beyond the political interpretations of bias in domestic terms of trade, there is evidence to suggest that over the past five years or so the extent of bias may be declining. Partly due to external prodding from aid agencies, and partly to pressure of internal events, many developing countries around the world have been liberalizing markets, adjusting fixed exchange rates, and lifting price controls (Reusse 1987). By removing distortions in the economy, these actions collectively help to reduce bias in the domestic terms of trade.

Impact of Domestic Terms of Trade on Rural-Urban Exchange

6.12 As indicated before, domestic terms of trade profoundly affect the nature of rural-urban exchange. In the first place, it affects the flow of capital from agriculture to other sectors. Sharpey estimates that in Kenya, a relatively modest deterioration in the terms of trade from 100.0 in 1964 to 88.3 in 1975, resulted in a large and increasing net capital outflow from the agricultural sector rising from 40.8 million Kenya pounds to 428.0 million Kenya pounds during the period in question.

6.13 By the same token, domestic terms of trade affect the pace of investment in agriculture, and the level of production. This is illustrated by Tyagi (1987) using data from India. During the period 1952-3 to 1963-4, at a time when net barter terms of trade remained against agriculture, gross domestic capital formation in the sector grew at the paltry rate of 1.5 percent per annum. But over the following ten year period, when terms of trade moved largely in favor of agriculture, capital formation grew more than three times faster, at 4.9 percent per annum, notably in the form of investments in oil engines for irrigation, pumpsets, and tractors.

6.14 The terms of trade also affect the rate of migration from rural to urban areas. This has been demonstrated by Kelley & Williamson (1984), who identified it as one of the key determinants affecting the rate of urbanization. The same point is corroborated by Rehnberg (1977) who found that the rate of outmigration from rural provinces of Korea was closely correlated with domestic terms of trade, measured in this case as the ratio between prices received by farmers and prices paid for purchased inputs. As a result of a turnaround in
6.15  Shifts in the terms of trade between agriculture and the rest of the economy also have major ramifications for the distribution of income between producers and consumers of food. Recent macro-economic adjustment policies designed to reduce distortions in the economy have a particularly strong impact on domestic terms of trade. These policies often involve correcting the overvaluation of domestic currency, and lifting controls on prices of agricultural products. Given the frequent bias against agriculture, reforms usually result in an increase in the price of food. Since food represents far and away the largest item of expenditure for low-income families, it is not surprising to find that such policies have often hit the poor hard, with harmful effects on their nutritional status (Pinstrup-Anderson 1988).

6.16  As de Janvry and Subbarao (1984) show, the net impact of a change in the domestic terms of trade depends on the structure of land ownership and food production. In a country like India, where 47 percent of the rural population are net buyers of food, raising producer prices would increase incomes for medium and large scale farmers but would decrease the absolute incomes of more numerous small scale farmers and poor households in rural and urban areas who are net buyers of food. Not only would this worsen inequalities in income distribution, it might well weaken aggregate rural demand for farm and nonfarm goods. However, these negative consequences might be offset to the extent that higher producer prices induce an increase in agricultural production, employment and incomes. In a country like Korea, on the other hand, where the poor are for the most part small farmers producing a food surplus, raising producer prices would yield overall benefits, and spur rural demand (Adelman & Robinson, 1978).

A common element of adjustment policies is freeing up exchange controls to correct overvaluation of the domestic currency. This raises the income of producers of agricultural exports, and might be expected to induce a switch to higher value export crops. Costs of imports rise, but may be offset to some extent by a reduction in import tariffs and other trade restrictions. Tariff reductions mean cheaper prices of imported farm inputs such as fertilizer and pesticides, and hence higher returns from production. (See Box 6.2)

6.17  In the short term, removing the bias against agriculture in the terms of trade can be expected to result in higher food prices, and increased incomes for food producers, but a strong negative impact on the poor. Over the longer term, the negative impacts on the poor may be offset in two ways. First, the evidence suggests that higher returns in agriculture induce increased employment and investment, leading to technical change and advances in production methods, which shift the supply curve outwards, resulting potentially in lower food prices. Second, higher farm incomes may also be expected to result in increased rural demand for nonfarm goods and services, and additional employment opportunities for the poor. Given the large number of intervening variables, however, it is by no means certain that the longer term benefits for the poor will offset their short term costs. In any case, they are still faced with the very real difficulties of surviving over the short term.
BOX 6.2: THE REGIONAL IMPACT OF CHANGES IN THE EXCHANGE RATE: KISMAYO, SOMALIA AS AN EXAMPLE.

Evans et al (1988) examined the anticipated impact of a move from a fixed to a free exchange rate on the economy of the Kismayo region in Somalia, which is largely driven by exports of bananas and livestock. Up until recently, the exchange rate was officially controlled usually at a rate above the free market level, which resulted in reduced domestic currency earnings by traders and producers of exported goods. During 1988 the fixed rate was replaced by a floating rate set weekly by the national bank.

Based on a simple model of the regional economy, the authors explored the sectoral and spatial ramifications of devaluation. An analysis of costs and returns in the banana sector showed that fixed exchange rates resulted in modest returns for producers, and minimal returns from marketing, conducted in this case by a parastatal. At a higher free market rate, however, revenue to producers and exporters could be expected to rise significantly, making it feasible to pay higher wages, expand output, and employ more labor. Consequently, earnings of rural households would also increase.

In the livestock sector, a free market exchange rate would primarily benefit exporters catering to overseas markets, who were finding it difficult at the time to compete with buyers for the Kenyan market, since cross-border trade was not subject to the same currency controls. A free exchange rate would not only increase earnings by overseas exporters, it would also make them more competitive in world markets, and allow them to bid for higher prices in the local market, resulting therefore in greater benefits to herders and the larger regional economy.

A move to a free market rate, however, would raise the price of imported goods including important inputs such as fuel oil and machinery. It would also raise the price of consumer items especially food items such as wheat, bread, cooking oil and powdered milk, the last of which is purchased extensively by herder households in the dry season. In sum, a free market rate would alter the terms of trade in favor of rural and herder households at the expense of urban households. Nevertheless, a large part of the additional revenue accruing to producers and marketers of exports would eventually find its way back to large and small towns in the region through expenditures on production and consumption goods produced and sold there.

The authors conclude that a move to a free market rate would on the whole benefit the regional economy more than the controlled rate. One third of the region's expenditure on imports and almost half of its income from exports would be affected by such a move. However, the additional expenditures for production and consumption, implied by a rise in the price of imported items, would be more than offset by the additional revenues arising from foreign earnings. Furthermore, increases in local spending and employment associated with the multiplier effects of increased export earnings could be expected to exceed any reductions arising from higher import prices.
B. Agriculture Sector Policies

6.18 Rural-urban exchange is also strongly affected by policies governing the agricultural sector. Especially significant are policies concerned with prices, which were discussed in part above, the distribution of agricultural inputs, and the marketing of farm produce. In many countries, especially in Africa, the government has traditionally played a prominent role in these activities, assuming responsibility for distribution and marketing of most major commodities. But following the Berg report (World Bank 1981), widespread reforms have been introduced in many countries around the world, which have resulted in the liberalization of markets and the privatization of many activities previously reserved for government agencies. This section reviews the record on government intervention in distribution and marketing, and examines some of the changes that have recently been taking place, and the effect these are having, or may be expected to have, on rural-urban exchange.

Government Interventions in Distribution and Marketing

6.19 The reappraisal of the role of the public sector in agricultural distribution and marketing has been prompted in part by the poor performance of many government agencies in carrying out their assigned tasks, and the realization that existing policies were not achieving their supposed objectives. In many instances public interventions have not only created substantial inefficiencies and hidden costs, but produced results that were entirely contrary to those intended.

(a) Affordable farm inputs.

6.20 Government intervention in the distribution of agricultural inputs is supposed to improve farmers' access to reliable supplies at affordable prices, but has frequently had the opposite effect. Controlled prices of inputs such as fertilizers and seeds may keep costs low for farmers, but by the same token act as disincentives for private traders. When coupled with import quotas and other restrictions, such measures effectively drive private traders out of these markets. But bureaucratic and administrative inefficiencies of the state marketing boards and producers' cooperatives that assumed responsibility for input distribution often result in shortages and delays in supplies, and sometimes higher prices.

6.21 In Kutus, Kenya, supply delays caused by the coffee union's tendering and ordering procedures meant farmers were unable to obtain critical inputs at the time needed, resulting in reduced yields and lost earnings (Bendavid-Val et al 1988). Mittendorf (1987) reports that while the marketing costs of fertilizer in Asian countries typically range from US$30 to US$40 per ton, the cost in Africa has often been as high as US$100, due mainly to uncompetitive supply systems and marketing mismanagement by inefficient parastatals. In some cases, government agencies are largely incapacitated by inadequate operating budgets and the lack of foreign exchange with which to buy supplies and spare parts. Such was the case in Kismayo, Somalia, where the government—officially the sole supplier—had virtually ceased to distribute veterinary drugs. Instead, private traders took over distribution, unofficially importing supplies from Kenya, a form of de facto privatization (Evans et al 1988).
(b) Secure and stable markets.

6.22 The establishment of state marketing boards is supposed to ensure secure and stable markets for producers, by offering fixed prices announced in advance, thus eliminating wide seasonal fluctuations. In practice, however, the promise of stable prices is often nullified or meaningless. Payments may be subject to lengthy delays, in part because boards have high overheads and inadequate finance. Sometimes, especially during periods of glut where the board is a monopoly buyer, the government may cease purchases altogether. Other problems are the lack of buying centers, which means they are inaccessible to more distant producers, administrative obstacles in transacting business with a government agency, and bribery extorted by purchasing officials (Cox 1984).

6.23 Delays in payment create other problems. They make it difficult for producers to purchase inputs for the next season, and for cooperatives to extend credit to members. Payment delays may also affect secondary markets. In Kutus, Kenya, for example, when the National Cereals and Produce Board slows payment for maize to purchasing agents, they are unable to make further purchases, which weakens demand, and forces farmers to sell instead to traders serving the local market, who tend to offer lower prices (Bendavid-Val et al 1988).

(c) Higher producer prices.

6.24 Government intervention in marketing agricultural produce is also intended to bring higher prices to producers, by eliminating supposedly excessive profiteering by private traders. In practice, it has often resulted in lower prices, due partly to price controls, and partly to rising overhead costs of the parastatals, which are most easily passed on to producers.

6.25 Furthermore, the popular notion of excessive margins and exorbitant profits by private traders is usually exposed as a myth by those who have studied the matter empirically. Lele (1971) examined grain marketing in India, and concluded that three factors discouraged the formation and operation of oligopolies, and thus the extortion of excessive profits. The three factors were: relatively free entry into trade, intermarket competition, and the lack of cooperation among traders. Others demonstrate that wide price margins can usually be explained by high costs of transportation and business risk (Bendavid-Val 1988b, London 1975). (See also Chapter V.)

(d) Cheap food.

6.26 Government intervention is further intended to secure cheap food for urban consumers, but the costs have sooner or later turned out to be insupportable. Commonly, this is accomplished either at the expense of the producer through lower fixed purchase prices, or at the cost of the government through subsidies lowering the price to consumers. In the first case, lower producer prices simply reduce incentives and curb output, creating shortages, which then have to be made up through imports using scarce foreign exchange. Alternatively, producers and traders circumvent the official channels creating a parallel market, which further reduces supplies at the official price, obliging consumers to pay higher prices elsewhere. In the second case, the cost of subsidies on basic foodstuffs requires ever increasing government expenditures as purchase prices rise and the population grows, compounding the difficulties
of balancing the budget or reducing public sector deficits. The combination of reduced domestic production, increased imports, and the rising cost of subsidies are identified by Reusse (1987) as some of the reasons which have driven governments to abandon intervention and to liberalize markets.

(e) Food security and regional imbalances.

6.27 Public marketing boards are also supposed to eliminate regional imbalances in the supply of food staples, and excessive variations in prices. In some countries, particularly East Africa, the first was to be achieved by controlling the long distance shipment of grains, with the marketing board making good any shortfalls in deficit regions, and the second by establishing uniform rates across the nation. In practice, few marketing boards have proved up to these tasks. Movement controls and national distribution systems require complex administrative procedures and logistical organization. As Cox (1984) points out, direct controls require large numbers of officials to enforce the monopoly, operate road blocks, and handle the paperwork for licensing movements. These tasks are beyond the capacity of most government agencies, especially where skilled staff are in short supply, roads and telecommunications are poor, and the profit incentive is absent.

6.28 Lele (commenting on Weiss 1978) concludes that the evidence in developing countries suggests that government intervention in marketing frequently exaggerates inter-regional price and supply disparities, because of the haphazard nature of policies, the lack of adequate administrative machinery, and the higher marketing costs incurred in the public sector compared with traditional private traders. Marketing costs are higher partly because parastatals tend to be less efficient in transporting and storing commodities, but also because, as Schmidt (1979 quoted in Bates 1986) illustrates in Kenya, their monopoly position creates scope for bribes to be paid by traders for such things as obtaining a license for movement, passing the gate to the depot, passing the moisture test, and getting the lorry off-loaded. Controls placed on the marketing and movement of maize and beans in Kenya was also found to curb competition by eliminating traders from other regions, thus depressing prices received by producers (Bendavid-Val et al 1988).

6.29 Empirical evidence that restrictions against private trade are associated with wider regional variations in prices comes from Ahmed & Rustagi (1987), who compared countries in Asia and Africa. In Asian countries, where private trade is allowed to operate side by side with public trade, and is encouraged through market development activities, the lowest regional price is around 70 percent or more of the highest regional price. In some African countries (Nigeria and the Sudan), where conditions approximate Asia although the private sector receives little or no assistance, the regional price differential is a little under 50 percent. But in Kenya and Tanzania, where the government has established public monopolies in foodgrains and actively restricts private inter-regional trade, the lowest regional prices are less than a third of the highest. (See Figure 6.1.) Given that taxes and profit margins are broadly similar in all the countries, the authors conclude that only transport and other transaction costs remain to explain most of the differences, both of which are directly related to the level of infrastructural development and the nature of public intervention in marketing.
6.30 Government intervention is also considered necessary in order to promote exports of agricultural produce, but in Africa at least, more often than not it has had the opposite effect. Originally, export marketing boards were set up to protect producers against wide fluctuations in world prices, by appropriating the difference between set domestic prices and world prices at times when this was positive, and using these funds to compensate producers at times when the difference was negative. But in practice, according to Bates (1986), accumulated reserves have been put to other uses, often to reduce shortfalls in government budgets, as for example in Uganda and Nigeria. In many instances, the primary purpose of export marketing boards has become instead to raise taxes and generate foreign exchange. At the same time, their overheads have tended to rise steadily, due to a perverse incentive structure, in which any losses are covered by the central government, and any profits have to be returned to them. This leads to overstaffing, loose controls on expenses, and personal profiteering, with ever increasing marketing costs. According to Abbott (1987), the costs incurred by a monopoly board in Jamaica for marketing bananas in the United Kingdom averaged US$100 a ton higher than the costs incurred for marketing bananas in Germany by a national private enterprise in Ecuador faced with competition from two transnationals.
6.31 Given rising overheads, coupled with the need to raise tax revenues, the domestic prices paid by marketing boards to producers of export commodities has tended to lag further and further behind the international price. In real terms producers' receipts have fallen steadily, and with reduced incentives, they have switched back to food crops for the domestic market, or even to subsistence forming (Lele & Mellor 1988). Coupled with other problems arising from overvalued exchange rates, occasional droughts, rising input prices, and political unrest, output of once prosperous export industries has declined severely in many countries. Exports of groundnuts, palm oil, and cotton from Nigeria, for example, are now almost non-existent. True the value of agricultural exports may have increased due to higher prices, but this disguises declines in the volume of exports. (Bates 1986 Tables 3.5 and 3.6.)

6.32 Despite the widespread disillusionment with state intervention in agricultural distribution and marketing, particularly in Africa, there have been notable success stories where marketing boards have performed as intended, and there are instances where government intervention may still be desirable, especially with export marketing. Crook (1988), for example, points to experience from the Ivory Coast, Kenya, and Zimbabwe, showing that it is possible for a state monopsony to run efficiently and benignly, paying promptly the best proportion of world prices. According to Cox (1984), the Kenya Tea Development Authority is widely acknowledged to be a model for agricultural parastatals.

6.33 Nonetheless, the balance of the evidence overwhelmingly indicates that government intervention in agricultural marketing and distribution tends to reduce earnings to producers of both export commodities as well as foodstuffs destined for the domestic market. Such a tendency can only serve to dampen incentives, reduce production, lower rural incomes, inhibit the growth of demand, and curb the expansion of farm and nonfarm jobs.

Recent Reforms and Their Effects on Rural-Urban Exchange

6.34 Given the widespread disillusionment with government intervention, it is not surprising to find that in recent years there has been a significant trend towards the liberalization of markets and the dismantling or curbing of parastatals involved in agricultural distribution and marketing. Reusse (1987) reports numerous examples from countries around the world. Twenty-four African countries devalued their currencies an average of 39 percent between 1984 and 1986. Marketing boards for certain agricultural commodities ceased trading operations or were abolished altogether in Nigeria, Zaire, Iraq, and Jamaica. Plans have been announced for the privatization of parastatals in Ghana and Morocco. Government import and export monopolies were abolished for selected commodities in Turkey, the Philippines, Belize and Sri Lanka. Grain markets were partially or completely deregulated in Chile, China, Madagascar and Mexico. Price subsidies for food and for inputs were reduced or abolished in Egypt, Ghana and Senegal.

6.35 In Reusse's (1987) view, governments have adopted these changes not so much for ideological reasons, but because of a combination of internal and external pressures. Many governments are no longer able to sustain food subsidies, to finance massive purchases after bumper crops, or to cope with inefficiency and corruption among parastatals. The cost of supporting subsidies
and the deficits of loss-making parastatals, coupled with the decline of export crops, has created insurmountable budgetary and balance of payment problems which can no longer be avoided.

6.36 The move to freer markets should help to reverse past declines, to remove constraints impeding local initiative, and to spur renewed growth of incomes and employment. Reuss anticipates that better prices will provide an incentive for farmers to produce and market more, and may reduce the need and a rise in traditional crop exports. Only a few months after the abolition of export-marketing boards in Nigeria in 1986, farm prices of the crops involved were reported to have risen by around 100 percent, even without major exchange rate liberalization measures, indicating excessive trade margins under the former system. He also expects to see a widespread response from the previously dormant and now revitalized private sector, especially in the movement of farm produce for domestic markets. But he warns that with the return to market currency rates, and the removal of subsidies on fertilizer, there may be a dramatic fall in demand. Trade in agricultural inputs features prominently among the unresolved issues that follow from liberalization and privatization reforms.

6.37 Reforms in one direction, however, may be ineffective or largely negated unless progress is made on other fronts. Many countries have devalued their overvalued currencies, often substantially. But, as Jaeger & Humphreys (1988) point out, the extent to which this has been translated into gains for producers of agricultural exports has often been undermined by tardy adjustments in domestic producer prices, and especially by inflation which is widespread. Liberalization of marketing and pricing mechanisms has resulted in rising real producer prices, for example in Niger, Nigeria and Zaire, but despite changes in farm price policy in Sierra Leone, Somalia, Sudan and Tanzania, the purchasing power of producers' incomes has been eroded by high domestic inflation. In other countries, heavy export taxes keep producer prices far below their value in international markets. In Kenya, where the pricing mechanism for coffee automatically follows shifts in world prices, the nominal protection coefficient (NPC) for coffee is a high 0.9, with marketing costs and a small export tariff accounting for the remaining 0.1. But in Ethiopia by contrast, the NPC for coffee is only 0.6, and would be lower after adjusting for the overvalued exchange rate (Jaeger & Humphreys 1988).

6.38 The liberalization of markets can be expected to revitalize rural production, and to stimulate exchange and interaction between rural and urban areas. Watson (1988) provides vivid evidence of the potential effects of a radical liberalization and privatization of agricultural marketing, based on experience in China. While few countries may have quite such a developed and all-inclusive state marketing apparatus, the change that occurred after reforms were carried out is indicative of the kinds of things that can be expected to follow in other developing countries as reforms are introduced.

6.39 Between 1979 and 1985 the number of markets doubled, and the value of trade passing through those markets more than quadrupled, especially in urban markets which were virtually nonexistent before. From being places where peasants simply exchanged surplus production, markets evolved into a sophisticated network of rural-urban exchange. Geographical linkages became more complex and far reaching, as private wholesalers took over the task of aggregating produce in rural areas, and shipping it to major transport centers and
more distant cities. Some marketplaces in the countryside developed as the nucleus of growing urban centers by attracting permanent commercial, processing, and service industries and a larger population. Generally, markets played an important role in enlivening the rural economy by raising peasant income, by increasing the proportion of agricultural commodities marketed, and by promoting efficiency through competition with state and collective organizations. Wholesale markets spurred the growth of related activities—such as transport and storage, goods handling, merchant accommodation, information distribution and communications systems, and commercial banking and financial services—generating opportunities for an increasing number of people to make a living out of marketing agricultural commodities.

6.40 The revitalization of rural-urban exchange, however, will not be achieved by price reforms and freer markets alone. As is discussed below, such reforms need to be reinforced by complementary government actions, particularly in the provision of supporting infrastructure and services.

C. Infrastructure

6.41 A third set of government policies that have a major impact on rural-urban exchange are those concerned with infrastructure. When discussing infrastructure, a distinction is often made between economic overhead capital (EOC), such as power and roads, which is required to support production and transportation of goods, and social overhead capital (SOC), such as schools and hospitals, which is designed to enhance human capital (Hansen 1965). Given the focus of the current study, we are interested primarily in the first kind of infrastructure which has to do with economic activity. More recently, writers have made a further distinction between "hard" infrastructure, which refers to physical works such as roads, irrigation, and power, and "soft" infrastructure which refers to supporting services, such as transport, finance, research and extension (Wilcox 1985 and Wamalwa 1989). Much of the literature on infrastructure focuses on its relationship with production, both in agriculture and industry. Here, however, we are more interested in those elements that affect trade between rural and urban areas, and the flow of resources from one place to another.

6.42 Most authors agree that the quality of infrastructure is every bit as important as price in determining the composition and level of output in agriculture and industry and the functioning of markets. Lele & Mellor (1988 p. 11), for example, argue that in order to encourage producers to switch from food production to export crops, "developing reliable food markets by investing in roads and other constraining factors" may be more effective than simply raising export crop prices. Lele (1984 p. 33) stresses the need for infrastructure to link markets in different regions in order to ensure that effective demand from deficit areas reaches areas with marketable surpluses, and thus to avoid an adverse effect on prices in surplus areas.

The Existing Situation

6.43 In many parts of the world, however, especially in Africa, grave deficiencies in the provision of infrastructure in both rural and urban areas seriously obstruct production and trade, inhibiting economic growth. In a study
of aggregate crop production behavior in Egypt, Esfahani (1987) finds that while aggregate production is rather insensitive to prices, the decline of investment in infrastructure largely explains the slow growth of Egyptian agriculture in the 1970s. Ahmed & Rustagi (in Elz 1987) find that the difference between consumer and producer prices in some African countries is up to three or four times larger than in Asian countries, and conclude that this is due in part to the level of infrastructural development. Hazell & Roell (1983) observe that poorly developed infrastructure in the Gusau region of Nigeria undoubtedly impedes farm household access to nonfood goods and services, and increases their cost relative to the price of food. Wilcock (1985) reports that in many countries across the Sahel, the absence of rural roads means that areas with agricultural potential remain under-utilized. As an example, he points to a region in Eastern Burkina Faso, which is modestly populated with surplus production of food, but where only 40 percent of the land area is within 10km of a dirt road passable during the dry season, let alone during the rainy season. In Nigeria, Singh (1986) reports that due to the absence of adequate roads and transportation services, most farmers are forced to rely on head porterage and bicycles. (See Box 6.3)

6.44 The situation is often little better in many urban centers, both large and small. In the northeastern states of India, Avadhaní (1981) finds that there is great potential for the development of small industries, but that several factors inhibit this, one of the main ones being inadequate infrastructure. In many cities of sub-Saharan Africa, Hamer (1986) finds that except for an ex-colonial core, the provision of infrastructure is deficient, and the quality deteriorating. In Kinshasa, the paved road network has remained virtually unchanged despite a fourfold expansion in the physical size of the city, with the result that coverage by public transit facilities is severely limited, and people living in districts developed after 1960 have to walk long distances to reach a bus or their workplace.

6.45 Not only does the lack of infrastructure limit the earnings of producers, it also raises their costs, effectively reducing net revenues. In Pakistan, the overall direct costs of power outages in 1984/5 for the country as a whole have been estimated to be about 8.6 percent of value-added for the industrial sector (World Bank 1988a). Even if producers decided to make good deficiencies in public infrastructure, the private cost to producers usually exceeds the value of taxes and user charges levied by a public authority for the provision of such services. In Nigeria, the unreliability of power supply prompted all but 14 of 179 industrial firms polled in survey to install their own generating equipment, representing about 10 percent of the value of machinery and equipment for larger firms, and 25 percent for the average small firm with less than 50 employees (Lee 1989). The burden is especially heavy for smaller firms, since they lack resources and suffer from diseconomies of scale in infrastructure facilities. The power outages in Pakistan referred to previously cost smaller firms an estimated 18 percent of value added (compared with the 8.6 percent figure for all firms), 7 percent of production, 12 percent of exports, and a 33 percent decrease in future investment (World Bank 1988a).

Government Policies for Infrastructure

6.46 In providing infrastructure for rural and urban areas, government policies seek different objectives. Sometimes the goal is simply to support
BOX 6.3: RURAL-URBAN TRANSPORTATION FACILITIES IN NIGERIA.

Inadequate transportation facilities connecting rural areas to market towns often impose substantial costs on farmers. This is illustrated by Singh (1986), who documents the transportation problems faced by Nigerian farmers in marketing their agricultural produce. He found that the common means of transportation used by farmers to market their produce included human porterage, bicycles, donkeys, barrows and lorries. Patterns of usage differed considerably between northern and southern parts of the country, due mainly to different topographical conditions, the southern region being more mountainous and having worse roads. In northern Nigeria, donkeys were the most commonly used form of transportation (43% of farmers using it), followed by lorries (22.6 percent), and head porterage (18.9 percent). In the southern region, by comparison, head porterage was the principal means, used by about 42 percent of the farmers, followed by bicycles (27 percent), and lorries (17 percent). (See Table.)

<table>
<thead>
<tr>
<th>Types of transport used</th>
<th>Northern Nigeria</th>
<th>Southern Nigeria</th>
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<tbody>
<tr>
<td>Head Porterage</td>
<td>18.9</td>
<td>41.66</td>
</tr>
<tr>
<td>Barrow</td>
<td>5.2</td>
<td>-</td>
</tr>
<tr>
<td>Donkey</td>
<td>43.0</td>
<td>-</td>
</tr>
<tr>
<td>Bicycles</td>
<td>10.3</td>
<td>26.67</td>
</tr>
<tr>
<td>Lorry</td>
<td>22.6</td>
<td>16.67</td>
</tr>
<tr>
<td>Canoe</td>
<td>-</td>
<td>11.67</td>
</tr>
<tr>
<td>Private Transport</td>
<td>-</td>
<td>3.33</td>
</tr>
</tbody>
</table>

Farmers in both regions commonly complained about high transport charges, and insufficient funds to cover the costs of transportation. They also frequently mentioned the lack of access roads, some 68 percent of farms having no direct connection to a road. Clearly, in such circumstances, the high costs of transporting goods to market effectively wipe out much or all of any gains from sales, providing little incentive to farmers to increase their output.

<table>
<thead>
<tr>
<th>Types of Transport Problems Encountered by Farmers in Nigeria, 1982. (Percentages.)</th>
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<tbody>
<tr>
<td>Types of Transport Problems</td>
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<tr>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>High transport charges</td>
</tr>
<tr>
<td>Limited fund to carry goods</td>
</tr>
<tr>
<td>Lack of all-season roads</td>
</tr>
<tr>
<td>Recklessness of drivers</td>
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<tr>
<td>High cost of fuel</td>
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<td>No means of transport</td>
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production in agriculture and industry, at other times to promote small towns, to integrate rural hinterlands into the national urban system, to induce the diffusion of manufacturing, or to slow the concentration of growth in a primate city.

6.47 Attempts to use infrastructure, tax holidays and other incentives as an instrument to lure industry to preferred locations may sometimes achieve results, but they usually prove to be a costly, inequitable, and misdirected way of promoting growth. They are costly because unless the incentives are substantial, they are unlikely to induce many firms to make a move. Yet, if a firm requires large incentives to persuade it to move, then it is probably incurring substantial additional costs or losses in productive efficiency at the new location. The measures are inequitable because the granting of incentives and subsidies to new arrivals, but not to existing potential competitors, is clearly a form of unfair competition. Also, as Westcott (1981) documents in Kenya, the cost of the subsidies for infrastructure and other incentives often get passed on in the form of local taxes and user charges to other local residents and taxpayers, with no distinction between large and small firms, or rich and poor households. Such measures are also misdirected since, as Hamer (1984) points out based on evidence from the state of São Paulo in Brazil, the greater part of industrial growth in most cities outside large metropolises does not come from the relocation of distant plants, or the opening of branch plants, but from the expansion of existing firms and the birth of new establishments.

6.48 Similarly, the premise that infrastructure can spur economic growth in a chosen region or location is questionable. Based on a study in Mexico, Looney & Fredericksen (1981) find that measures of economic overhead capital (EOC) are associated with gross domestic product (GDP) in an intermediate group of states, and that measures of social overhead capital (SOC) are associated with GDP in the group of lagging states. Based on these findings, they claim that infrastructure explains variations in GDP, and conclude from a test of the direction of causality between income and infrastructure, that "infrastructure appears to be the initiating factor in the development process, rather than the passive or accommodating factor."

6.49 Despite the authors' claim to the contrary, however, a more plausible explanation is that the type and level of provision of infrastructure in a region is determined by its level of economic development. Lagging regions are not likely to attract public investment in EOC, but intermediate regions might. The provision of SOC in lagging regions may be associated with GDP inasmuch as it reflects the size of population, since governments have a responsibility to provide schools and health facilities to all the population, wherever they may live. But it is stretching credibility to claim that the number of medical emergency facilities, primary schools and kindergartens somehow explains GDP.

6.50 The premise that economic activity, actual or potential, induces investment in infrastructure is supported by Binswanger et al (1989). Based on a study in India, they show that agroclimatic endowments—particularly rainfall, flood potential, soil moisture capacity, and especially irrigation potential—influence the location of rural population, aggregate crop output, and hence investments in public infrastructure such as roads, markets, irrigation canals, electricity, and primary schools.
6.51 While infrastructure alone cannot induce growth, it may facilitate it if there already exists effective demand for the products of the region or town. This may be achieved by releasing bottlenecks constraining production, and impeding the flow of resources from one place to another.

6.52 These realizations have led to a shift in thinking on the type and location of infrastructure investments (Richardson 1985 and Evans 1989a). Earlier, infrastructure was regarded as an instrument for leading development in the desired direction, by inducing growth to follow some predetermined pattern of spatial distribution. Experience with many new town programs (Renaud 1981) and efforts to create growth poles (Conroy 1974), have shown that such an approach often results in wasted investments unless underlying conditions for potential economic growth are favorable. It is argued therefore, that public investment in infrastructure should not lead growth, but follow it, either to where it is already taking place, or at least to where there is a strong potential for growth.

6.53 At the same time, the form of the settlement system matters less than how it functions. A preoccupation with the appropriate form of the settlement hierarchy based on central place theory directs attention to the spatial distribution of urban centers at each level of the hierarchy, and the kinds of physical infrastructure and services a city or town ought supposedly to possess given its geographical location and position in the hierarchy. (See for example, Kenya 1977, Rondinelli and Evans 1984, Wanjiru 1987b). A focus on the functioning of the rural-urban system, however, points instead to a different set of concerns. Of more relevance are infrastructure and services that strengthen linkages, spur exchange, and facilitate interactions between one place and another, and the policy environment that encourages or discourages those facilities and activities from coming into existence.

Elements of Infrastructure

6.54 Among the many elements of infrastructure and related services that affect rural-urban exchange, four merit special attention. These are roads and transportation services, market information, the regulatory environments, and local government administration.

(a) Roads and transportation services.

6.55 The most obvious element affecting spatial linkages from one place to another is the road network. The adverse impact of an inadequate road system on rural production and income, and on trade among towns and regions, is widely documented. Poor roads, or the lack of them, raise transport costs, reduce returns to producers, and increase prices paid by consumers. By inhibiting production and trade, an inadequate road network perpetuates poverty in a region, curbs the expansion of rural income earning opportunities, and thus spurs out-migration among job-seekers.

6.56 Improvements in the road network, on the other hand, can trigger dramatic changes, especially where underlying conditions for growth in the region are favorable. Binswanger (1983a p. 129), for example, reports that improvement of roads in Thailand have undoubtedly had a major impact on agriculture, through reduced transport costs and access to markets. This is manifested by the
expansion of land under cultivation, especially in the lower north of the country, a concentration on cash crops rather than subsistence crops, and an increase in rice exports from remoter regions.

6.57 A detailed accounting of the impact of improved rural roads is provided by Van Raalte et al (1979), based on an evaluation of a USAID sponsored labor intensive program in Colombia. With the construction of roads in areas previously inaccessible to vehicles, travel times fell to a fifth or sixth, transport costs tumbled to one fifth and lower, with a dramatic reduction in the costs of marketing agricultural produce. Farmers increased production of goods for market, particularly perishable goods like tomatoes, avocados berries and milk. Output levels often rose substantially, an estimated 50 percent for peas in one area, and 200 percent for potatoes and wheat in others. The local price of fertilizer fell sharply, inducing farmers to make greater use of it. Easier access to nearby towns, enabled more farmers to take advantage of credit offered by banks and lenders, and more workers to obtain alternative jobs in nonfarm activities, which in turn caused an increase in wage levels and earning. There was even some return migration by farmers who had previously not been able to work their farms profitably, and sharp increases in land values.

6.58 Reduced transport costs arising from better roads, however, make it possible for larger firms in distant locations to compete more effectively in local markets. Their lower costs of production derived from economies of scale, coupled with better quality, reduce demand for many kinds of nonfarm good produced in the home or in nearby towns, often pushing petty manufacturers out of business. In rural areas of Thailand, lower transport costs largely account for a sharp decline in home-weaving, and other subsistence-oriented nonfarm activities (Binswanger et al 1983a). In Kismayo town, Somalia, for example, over the eight-year period 1979-87, during which time the main highway connecting the town to the capital city Mogadishu was substantially improved, the number of licensed manufacturing businesses declined from 248 to 147. The decline was especially notable among tailors, and makers of wood and metal products (Evans et al 1988).

6.59 Nevertheless, the net impact of improved roads on the local economy is usually positive. In the rural regions of Thailand, Binswanger et al (1983a) also argue that roads contributed more nonfarm jobs than were lost, much of the gain coming from increased processing and transport of cassava and other commodities which are now exported from the regions. In the Kismayo case, despite the decline in manufacturing, the total number of businesses increased nearly 50 percent, particularly among the retail, trading, and transportation sectors, and some part of this increase has to be attributed to increased trade with other areas which followed the upgrading of the highway.

(b) Market information.

6.60 The efficient operation of markets, reflected by the flow of resources from one place to another, depends crucially on information and knowledge of market conditions in different parts of the country. In many parts of the developing world, the primary source of information on market conditions--whether for job opportunities, commodity prices, or interest rates--is by word of mouth from relatives, friends, and other acquaintances. Depending on where one stands in the marketplace or trading chain, the information received may be outdated.
and incomplete, or current and comprehensive. The better the information, the
greater the advantage to be gained.

6.61 The importance of information in the functioning of markets, and its
impact on profit margins, is well documented by Alexander (1986) in her study
of the chilli marketing system in rural Java. Alexander observes that although
reported profits are low, the highest profits in the extended chain of traders
from producer to consumer are captured by the depot operators who link the
primary buyers to the urban wholesalers. Because of its strategic position at
the crossroads of the trading network, the depot has superior access to price
information and the ability to resell in a wide range of regional markets. The
two or three days it takes for information to percolate through the system is
the information edge which provides the depot with higher profits. She concludes
that poor information on market conditions constrains entrepreneurial activity.

6.62 Markets function more efficiently when information is reliable and
widely available to those involved. This point is stressed by Reussé (1987),
who argues that following recent efforts to liberalize markets in many countries,
the single most important step to establish and protect a competitive marketing
system is probably to improve market transparency. FAO recommendations for
developing coffee exports from Equatorial Guinea, for example, included country-
wide dissemination of market news, including price notations at the London
Terminal market and domestic assembly markets, premiums, discounts, stock
positions, and cumulative export volumes. To facilitate farmers' decision
making, he suggests news relays should include analysis and discussion of current
and projected farm-gate prices. To calm buyers' fears at times of shortage, he
suggests that explanations for price hikes and information on anticipated market
developments should be disseminated to consumers. Market transparency, he
argues, accelerates adjustments where prices get out of step, thereby making it
difficult for oligopolies to form or survive.

(c) The regulatory environment.

6.63 The flow of goods and services between rural and urban areas is often
constricted by a variety of official rules and regulations governing trade and
transport. Importers and exporters are often subjected to a multitude of
regulations that require visits to numerous government agencies which are rarely
to be found outside the largest city or port. Even when branch offices are to
be found in provincial cities, approvals and authorizations can often only be
granted by senior officials at headquarters. The extent of such regulations,
and the lengthy bureaucratic procedures that they entail, only raise the cost
of transactions, hobble potential initiatives, and inhibit the proliferation of
such activities in other cities.

6.64 Official rules and regulations often have an especially adverse impact
on informal sector activities. Typically, it seems, the initial response of
government authorities has almost invariably been to try to control, if not
eliminate, them. In some countries, they are more or less successful. A visitor
to Zimbabwe, for example, cannot help but be struck by the absence of numerous
informal sector activities normally observed in other African countries. The
streets of Harare are spectacularly devoid of hawkers and vendors. The
countryside is almost empty of minibuses and pick-up trucks. This is mainly
due to the vigorous enforcement of licensing laws and regulations associated with street hawking, public transit services, and vehicle roadworthiness.

6.65 In other countries, the government may have little choice but to recognize informal activities de facto, if not de jure. Nevertheless, as de Soto (1989) extensively documents in the case of Peru, the government may still attempt to exert its authority over such activities, by inducing informal sector entrepreneurs to accept certain controls in exchange for privileges and exemptions. Sometimes this leads to perverse results. In Lima, transport operators agreed to controls on fares in return for much reduced fines and exemption from regulations requiring the impoundment of vehicles for infringement of traffic violations. The lower penalties effectively reduced incentives for operators to maintain safe vehicles, with adverse consequences for passengers, whom the government is ostensibly trying to protect.

6.66 While such policies may be driven by valid concerns for public order and safety, they effectively restrict such activities, or raise operating costs beyond the point of financial viability for most small scale entrepreneurs. Workers are denied the opportunity of earning a living, consumers are refused cheap alternative sources, while rural producers are deprived of vehicular transportation.

Impact of Infrastructure on Rural-Urban Exchange

6.67 As was pointed out previously, infrastructure may not be able to induce growth or development by itself, but it can facilitate growth under the right conditions. Given effective demand for a region's resources, the quality of infrastructure can make a major impact on the economic health of a region and its interaction with other parts of the country.

(a) Agricultural production and marketing.

6.68 Available evidence indicates that in many poorer developing countries improvements in infrastructure are likely yield bigger increases in production than a rise in prices. Chhibber (1988) reports that the aggregate supply elasticity of agriculture with respect to prices lies in the range of 0.3 to 0.9, and with respect to non-price factors (public goods and services) tends to be much higher. In countries where infrastructure facilities are inadequate, markets are imperfect, and there is a lack of capital and private research organizations, the elasticity of supply is around 1.0, but in more advanced developing countries with better infrastructure it is lower. Chhibber argues therefore, that the response of aggregate supply to prices is likely to be higher in relatively advanced countries like Argentina, than in poorer countries like India, where it is only one third the response to nonprice factors. The large difference arises partly because agriculture in India is less commercialized than in Argentina, and partly because increase in output depends less on the expansion of cultivated land, which is in short supply, and more on increase in yields, which relies on public investments in irrigation, research and extension. This implies that the role of infrastructure and other non-price factors in the recovery of African agriculture may be even larger than in India, due to the greater infrastructure constraints there, notably poor roads and transport facilities, and inefficient research and extension services.
6.69 Other evidence also indicates that better infrastructure spurs agricultural production. A study undertaken in Bangladesh compared one group of villages with relatively well developed infrastructure with another group that was less well equipped (Ahmed and Hossain 1988). It was found that while the price of the major commodity, paddy, differed little, the price of fertilizer was 14 percent lower in the developed villages, and labor was 12 percent higher. These price differences did not affect the use of labor much, but the developed villages used almost twice as much fertilizer. As a result, output in the developed villages was estimated to be in the range of 31 percent to 42 percent higher.

6.70 Ahmed & Hossain find that better infrastructure also had a positive impact on marketing of agricultural produce. While the average yearly prices of paddy and rice were similar in the two groups of villages, the seasonal variations were higher in the underdeveloped villages, in part a reflection of poorer access and greater difficulties in trading produce with other areas. Households in the developed villages also tended to purchase a greater share of basic foods in the marketplace, 34 percent of rice compared to 29 percent in underdeveloped villages, and 72 percent of vegetables and tubers compared with 56 percent. Farming was more commercialized too among the more developed villages, with farmers marketing 47 percent of their paddy output compared to only 35 percent in the less developed valus.

(b) Employment and incomes.

6.71 The same study also revealed that infrastructure affects the composition of employment (Ahmed and Hossain 1988). Improved infrastructure creates opportunities for non-farm employment, either locally or in nearby towns. Farm households with the necessary capital and skills take advantage of these opportunities, hiring labor to take their place in the fields. The shift of labor from agriculture to nonfarm activities, and the shift from self-employment to wage employment, increases the productivity of labor and reduces underemployment.

6.72 The authors' analysis further indicates that better infrastructure contributes dramatically to increased household incomes. Part of this comes from the rise in demand for labor, which pushes up wages and earnings. Part of it comes from the revenue derived from increased agricultural output. Among households in the group of developed villages, income from crops was up by 24 percent, income from livestock and fisheries was 78 percent higher, and wage income was almost double that in the underdeveloped villages. It was also found that the incomes of landless and small farmers increased proportionately more than larger landowners. Overall, the authors estimate that better infrastructure contributed about a 33 percent increase in household income.

(c) Consumption and investment.

6.73 Through its impact on household incomes, Ahmed & Hossain (1988) argue that the quality of infrastructure also indirectly affects consumption and investment. In line with the findings reported in Chapter IV of this report, the authors indicate that households in the more developed villages, where incomes are higher, devote a smaller proportion of total spending to food, 75 percent as opposed to 81 percent in the less developed villages, and shift
away from staples (47.5 percent versus 59.6 percent) to other foodstuffs (27 percent versus 21 percent). At the same time, gross investment per household was found to be 14 percent higher in the developed villages, due mainly to larger investments in livestock and fisheries. However, household investment on irrigation and agricultural equipment was 27 percent lower than in the undeveloped villages, since land ownership per household is about 34 percent smaller. If investment is calculated in relation to the area of land, rather than the number of households, this difference disappears.
VII. NEXT STEPS

7.1 Three broad sets of issues arise from this review of rural-urban linkages, concerning research, policy, and operations. Research issues may be discussed in terms of gaps in current knowledge, the impact of recent structural adjustments on rural-urban linkages, and the design of a modelling framework. Policy issues address the locus of program investments, infrastructure provision and service delivery systems, and the regulatory environment governing the private sector's role in rural-urban exchange. Lastly, when thinking through the policy implications of these linkages, a number of operational issues arise for national and international agencies concerned with development.

A. Research Issues

The Urban Half of the Rural-Urban Equation

7.2 The literature on rural-urban linkages abounds with material written from the perspective of agriculture and the rural sector, but much less exists that starts from the vantage point of the urban sector. While much of the literature to date has focused on the impact of rising output and incomes in agriculture on nonfarm activities, there has been little investigation of the other side of the coin, namely the impact of the urban economy on the rural sector. This suggests a number of issues that need to be explored, among them:

(a) the behavior of urban households as consumers, producers, and investors, and changes that result from rising incomes, particularly as they affect demand for the products of the rural sector;

(b) the evolution of inter-industry linkages and the corresponding growth of intermediate demand, particularly backward linkages to agriculture;

(c) the change and diversification that occurs in the composition of nonfarm activities, and the corresponding locational shifts among small towns and larger cities over time;

(d) the nature of distribution networks associated with commerce and trade, and factors affecting spatial variation in prices resulting from market imperfections and the friction of distance; and

(e) the characteristics of income and employment multipliers within a city and its hinterland associated with export-oriented nonfarm production.

7.3 Many of these issues can be examined productively within the framework of regional analysis. Such an analysis should attempt to explicitly document four main features of the economy:

(a) the linkages among urban centers in the settlement hierarchy and their rural hinterlands;
(b) the spatial incidence of inter-industry linkages emanating from urban activities;
(c) the evolving roles of smaller and larger towns; and
(d) the impact of infrastructure deficiencies on the flow of resources and the diffusion of economic activities within a region.

**Impact of Structural Adjustments on Rural-Urban Linkages**

7.4 A second set of issues concerns the impact on rural-urban linkages of recent structural adjustment policies. Based on what is known about rural-urban linkages, a number of propositions may be formulated about expected outcomes of a given policy change. Reports that have appeared so far on structural changes in countries where they have been implemented provide some preliminary evidence, but more detailed studies are needed to investigate how these changes specifically affect the interactions between incomes, employment, and economic activity in rural and urban areas. Among the issues to explore are the impacts that result from:

(a) the devaluation of exchange rates,
(b) the reduction or removal of restrictions on trade,
(c) the relaxation or abolition of food subsidies and price controls on agricultural commodities,
(d) the dismantling of parastatals and government monopolies, and
(e) the easing or lifting of restrictions on inter-regional trade.

**Design of a Modelling Framework For the Study of Rural-Urban Linkages**

7.5 As was indicated at the outset, it was not the intention of this report to devise a rigorous conceptual framework for the analysis of rural-urban linkages, in part because of the broad range of subject matter covered here. However, as is evident from the foregoing discussions, linkages are diverse, complex, and highly interdependent, such that changes in one place set off a chain of potential reactions throughout the local economy. To examine these interdependencies in a more structured manner requires a modelling framework that incorporates the main features of the regional economy and key variables that affect outcomes.

7.6 A number of approaches might be adopted for this exercise, including regional input-output models, social accounting matrices (SAMs), and regression models. The appropriate instrument, of course, depends on the nature of the questions to be investigated, and the resources available for the task, particularly data, which is often difficult to obtain at the relevant level of spatial disaggregation. To some extent, this problem might be overcome by constructing a stylized model of a local economy typically found in specific regions of the world. The main purpose of constructing such a model would be to explore theoretical propositions concerning the inter-relationships between
production, trade, and income, and the movement of capital and labor between farm and nonfarm activities, and between rural and urban areas.

B. Policy Issues

7.7 A number of policy implications arising from this investigation of rural-urban linkages were reviewed in chapter I. Among the host of issues that emerge, a number of key points bear reiterating. First, towns matter because they play a key role in the local economy as the interface between the rural and urban sectors. Second, linkages matter because they connect producers and consumers in rural and urban areas, and vitally affect the spatial diffusion of development. Given that towns and linkages matter, then policies and programs should be designed to promote towns and strengthen linkages. This means thinking not only about appropriate supporting infrastructure and services, but even more importantly about delivery systems for the provision of infrastructure and services.

Urban Centers

7.8 Appropriately designed programs in support of urban centers can yield significant returns not only for the city or town itself but also for the entire local economy. While this might be considered obvious in regions that are already highly urbanized, it can also be true in regions where the population is still predominantly rural. In such regions, investments in strategically selected small towns, in particular, offer the potential for handsome pay-offs.

7.9 Small towns impact the local economy in several ways. A growing local urban population creates demand for farm produce. Small towns play a key role as entrepôts for farm produce on its way to larger urban markets, and as centers for the supply of goods and services for farmers and other rural producers. Further, much of the growth in nonfarm employment is likely to take place in small towns, providing job opportunities for rural households. In this way, small towns enable rural households to diversify their sources of income, to reduce the risks associated with farming, and hence to adopt improved farming methods.

Infrastructure and Service Delivery Systems

7.10 Ample evidence points to the importance of adequate infrastructure and services in supporting production, and in facilitating trade and rural-urban exchange. While the provision of infrastructure—such as roads, markets, water, or power—is important, a more critical concern is the capacity of the provider to effectively operate and maintain such facilities once installed. Experience from many countries around the world indicates all too often this is far from adequate. Since responsibility for the provision of many kinds of infrastructure and services is often assigned to the public sector, development efforts should pay particular attention to bolstering the agencies concerned, be they a parastatal, or unit of national or local government. This points to four factors:

(a) the fiscal resources of public agencies and the methods of financing the provision of infrastructure and services;
(b) the financial management and administrative capabilities of public agencies;
(c) the technical efficiency of operating practices and maintenance procedures; and
(d) potential opportunities for improving the delivery of selected services by utilizing the private sector.

The Regulatory Environment

7.11 While there may be scope for increasing the participation of the private sector in delivery systems for infrastructure and selected services, private business already plays a dominant role in most countries in many of the key linkages connecting rural and urban areas. Chief among these are:

(a) banking and credit,
(b) transportation,
(c) marketing,
(d) wholesaling and retailing, and
(e) exporting and importing.

7.12 While structural adjustment policies designed to liberalize markets and remove distortions in the macro economy primarily address reforms at the national level, numerous other regulations abound at the local level which may also adversely affect the functioning of markets and other forms of rural-urban linkages. These regulations take many forms, vary considerably from one country to another, and involve a wide variety of public agencies and institutions, especially municipal authorities.

7.13 Those designing development programs, therefore, should seek ways of improving the regulatory environment within which the private sector operates. There may be opportunities for removing constraints which impede the flow of resources between rural and urban areas, and thwart the expansion of local economic activities, particularly in the informal sector. Among the many regulations that should be examined, are:

(a) land use zoning ordinances governing the location of informal sector activities,
(b) rules affecting the operation of small businesses,
(c) local licensing requirements for street hawkers,
(d) bylaws affecting transportation services and the operation of vehicles,
(e) banking regulations governing collateral for loans to small businesses and private credit schemes.
B. Operational Implications

7.14 Perhaps the most far-reaching implications of this study of rural-urban linkages concern operational procedures for development agencies. Efforts to promote economic development in a region must consider the interrelationships between one activity and another. Projects to promote agriculture or petty manufacturing need to consider sources of demand, and whether producers are effectively linked to these sources. Industrial projects need to take into account the availability of skilled labor and adequate infrastructure, particularly power, water, and roads. Infrastructure projects need to be considered in relation to latent demand for the region's resources and products. Efforts to promote employment in small scale enterprises need to evaluate the impact of the existing regulatory environment. In short, each activity needs to be assessed in terms of its linkages to the wider regional economy. This kind of cross-disciplinary and multi-sectoral analysis and planning is often difficult to achieve, given the way plans and programs are currently prepared and implemented in most public sector institutions. To overcome these constraints implies thinking in operational terms about procedures for planning, financing, and budgeting.

Data and Analysis

7.15 The planning framework for such an approach has to be expanded beyond conventional sectoral boundaries. For this purpose, different kinds of data are required, much of which is not normally available, especially at the household level on spending and investment. Data on population, employment, and economic activity needs to be disaggregated to smaller spatial units. In addition, an appropriate analytical or modelling framework is required to understand how the separate pieces fit together.

The Planning Process

7.16 The current practice of treating the economy in sectoral terms inhibits consideration of larger issues, and a proper appreciation of linkages between one activity and another. Instead, a regional or spatial focus is needed, overlaid on sectoral analyses. This implies an interdisciplinary approach, with coordination between sectoral analysts. Precedents exist, but often at the national level. Planning for regions is better undertaken at the regional level, building from the field up as much as from the national level down, such as is practiced by the District Development Committees in Kenya, or the regional development corporations found in many Latin-American countries. Often, however, it is difficult to assemble staff with relevant skills, especially in countries where human resources are limited.

Execution

7.17 Plans that stress linkages between activities often cross conventional sectoral boundaries and inevitably call for complementary actions by numerous different line agencies and special purpose bodies. This requires mechanisms for coordinating such activities. Experience to date with planning and executing intersectoral programs is mixed, abounding with failures. Too often programs are
constrained by artificial jurisdictional boundaries of government agencies, particularly those involving ministries of central government. Yet successful examples do exist of interagency collaboration in regional programs, and should be studied as models for further experimentation and replication.

Financing and Budgeting

7.18 Programs involving more than one sector also present problems of financing and budgeting. While a single ministry may be able to coordinate the funding of program components involving separate agencies within its own jurisdiction, problems arise when complementary funds are needed from additional sources outside its purview. Sometimes such coordination can be achieved if the parties share a strong common interest or if some outside body has sufficient influence to coerce the parties to collaborate. Much more frequently, the potential scope of a program is curtailed to fit within the jurisdictional boundaries of the primary implementing agency. Programs aimed at specific geographical areas are especially prone to such curtailment, particularly when implemented by a sectoral agency rather than a regional body. Among donor agencies, the difficulties of crossing traditional departmental boundaries also give rise to similar limitations and problems.

7.19 While considerable progress has been made in terms of substantive knowledge about rural-urban linkages, and an understanding of how they affect the structural transformation of the economy, less progress has been made in terms of integrating this knowledge into development programs and planning practice. Further work is needed to explore new institutional procedures for accommodating the kind of multi-faceted approach to the development of rural and urban areas which this knowledge implies.
REFERENCES


Byerlee, Derek, and Gustavo Sain, (1986), "Food Pricing Policies in Developing Countries: Bias Against Agriculture or for Urban Consumers?". *American J of Agricultural Economics*, Vol 68.


Cour, Jean Marie, (1989), "Tentative Assessment of the Real Economy of Madagascar". World Bank, manuscript.


Freeman, Don, and G.B.Norcliffe, (1984), "National and Regional Patterns of Rural Non-Farm Employment in Kenya". Geography.


Griffin, K., (1976), "On the Emigration of the Peasantry". World Development.


World Bank, Agriculture and Rural Development Department, Report No. ARU 67.


Harriss, Barbara, (1987a), "Regional Growth Linkages from Agriculture". The Journal of Development Studies, 23 (2).


Harriss, Barbara, (1989), "Commercialisation, Distribution and Consumption". Ch 7 in Potter & Unwin (eds) Geography of Rural-Urban Interaction in Developing Countries.


King, Robert P., and Derek Byerlee, (1978), "Factor Intensities and Locational Linkages of Rural Consumption Patterns in Sierra Leone". American Journal of Agricultural Economics, May.


Kothari, Devendra Kumar, (1980), "Patterns of rural-urban migration: a case study of four villages in Rajasthan, India". PhD thesis, Department of Demography, Australian National University.


Pakkasem, Phisit, (1981), "Rural-Urban Relations in the Bangkok Metropolitan Dominance Subregion". Ch 4 in Fu-Chen Lo (ed) Rural-Urban Relations and Regional Development. Maruzen Asia / UNCRD.

Pierce, W., and N.Jequier, (1983), Telecommunications for Development. ITU-OECD.


Reusse, E., (1987), "Liberalization and agricultural marketing: Recent causes and effects in Third World economies". Food Policy, November.


Salih, Kamal, (1981), "Rural-Urban Transformation and Regional Underdevelopment in Malaysia". Ch 5 in Fu-Chen Lo (ed) Rural-Urban Relations and Regional Development. Maruzen Asia / UNCRD.


Song, Byung-Nak, (1981), "Economic Growth and Rural-Urban Relations in Korea". Ch 3 in Fu-Chen Lo (ed) Rural-Urban Relations and Regional Development. Maruzen Asia / UNCRD.


