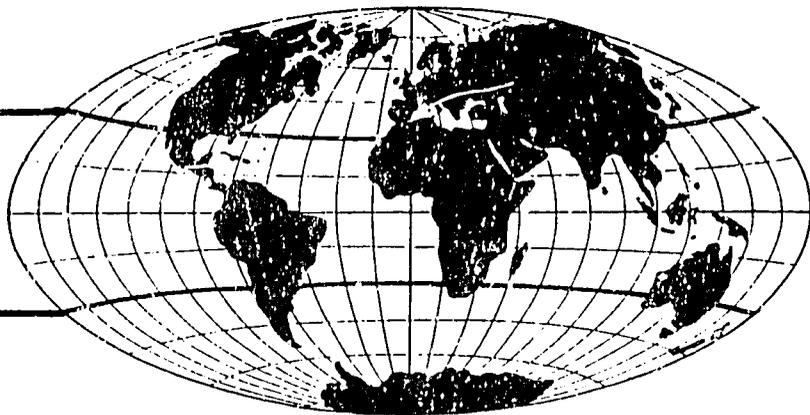


COOPERATIVE AGREEMENT ON SETTLEMENT AND RESOURCE SYSTEMS ANALYSIS

RURAL-URBAN EXCHANGE
IN KUTUS TOWN AND ITS HINTERLAND



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EXECUTIVE SUMMARY

The Republic of Kenya's Sessional Paper No. 1 of 1986, "Economic Management for Renewed Growth," sets forth the government's approach to long-term economic development. An integral part of that approach is "rural-urban balance," a strategy of local level investments meant to take advantage of the opportunities for development of small towns and secondary cities associated with expanding agriculture. Rural-urban balance explicitly recognizes the interdependence of agricultural development, urban development, and the creation of off-farm employment opportunities for members of rural households.

One important mechanism for implementing rural-urban balance is the Rural Trade and Production Centre (RTPC) Programme. As described in the Sessional Paper, "The purpose of this programme is to concentrate scarce resources for urban infrastructure in a limited but growing number of selected rural centers which have the best potential for supporting agriculture and its linked productive activities, including processing, manufacturing and services." Kutus is one of the first designated RTPCs.

This study of rural-urban exchange in Kutus town and its hinterland was undertaken for three primary purposes: to yield insights into potential RTPC interventions in Kutus and the nearby vicinity, to develop baseline information on the area especially suited to evaluating effects of the RTPC Programme several years hence, and to provide guidance for rural-urban balance policy and implementation of the RTPC Programme. The research effort was also intended as a first experimental step toward developing a field research approach that could be used for other RTPCs.

Because it was desired that findings of the study be useful to other endeavors related to rural-urban balance in addition to the RTPC Programme, the researchers were instructed not to limit their consideration of potential interventions in the Kutus area to the basic infrastructure investments called for under the RTPC Programme.

OVERVIEW OF THE STUDY AREA

Kutus town is located northeast of Nairobi, about an hour and a half away by motor vehicle over paved roads. It lies more or less in the center of the settled area of Kirinyaga District, at the convergence of major roadways linking the larger settlements of the district with each other and with larger cities such as Embu to the east and Nairobi to the south. The study area can be roughly described as a circle with a seven-kilometer radius around Kutus town, and it can be characterized as a midlands transition area. It encompasses lands ranging from relatively steep-sloped, at elevations up to about 4,800 feet in the north, to gently-sloped, at elevations down to about 3,900 feet in the south. It includes areas designated as coffee, marginal coffee, sunflower-maize, and cotton agricultural zones (see maps in Chapter II).

The population of the study area in 1987 was estimated to be about 48,000 with nearly 5,000 in Kutus town. The population of Kutus town has been growing at an average of 9.4 percent per year in recent years, due in large measure to immigration. There has been little migration to the farming portion of the study

STUDY AREA POPULATION ESTIMATES, 1987

	<u>Kutus Town</u>	<u>Farm Households</u>	<u>Other Nontown</u>	<u>Total</u>
Number of households	1,294	4,527	1,020	6,841
Average household size	3.69	8.37	5.33	7.03
Population	4,775	37,891	5,437	48,103
Percent of total study area population	9.9	78.8	11.3	100.0
Percent of District population	1.2	9.4	1.4	12.0

area. A large proportion of migrants to Kutus have been attracted from outside the district, while among study area farm households virtually all heads of households and 94 percent of migrants to the area are from Kirinyaga District. A further possible indication of the perceived economic health of the area is that in the age group representing prime working years the proportion in the study area exceeds that in Kenya as a whole. The average age is youthful but higher than nationwide.

Kutus households derive nearly 90 percent of self-employment earnings, 78 percent of wage earnings, and 87 percent of all earnings from Kutus. Among Kutus self-employment activities in which residents engage, commercial activities dominate. Average household self-employment earnings from service and commerce activities in Kutus are easily two to three times the average earnings from industry. The services sector provides the highest level of Kutus household earnings from wages.

A large number of Kutus households earn self-employment income from farming, and nearly 20 percent from farms in the study area. Yet self-employment cash income from farming inside or outside the study area is substantially less than from any other sector inside or outside the study area. Thus, farming is a significant self-employment activity for Kutus residents but apparently for reasons other than maximizing current cash income.

Study data show that farm households in the Kutus area also derive substantially more of their cash earnings from nonfarming activities than from farming, and are even more diversified than Kutus households in their nonfarm activities. It is not an uncommon practice for farm households, especially the more prosperous ones, to engage in commercial businesses and to a lesser extent in service businesses in Kutus town. Farm households in the study area derive about 25 percent of their cash income from farming self-employment, and of this, 23 percent from farming in the study area. Overall, only about 40 percent of farm household cash income in the study area is derived from local rural activities; another 28 percent is derived from activities in Kutus town, and 32 percent is derived from activities outside the study area.

Nevertheless, agriculture appears to be central to the economy of the region on at least three counts. First, apart from providing a significant amount of income to farm households and most income to less prosperous farm households, farming appears to provide a food source, safety net, and revenue base for undertaking nonfarm entrepreneurial activities. Second, the commercial sector in Kutus in particular is closely linked to and heavily dependent upon agricultural production and marketing. Third, both commerce and services in Kutus depend heavily on spending by farm households from the study area.

The following table summarizes estimates of basic crop production statistics for the study area. Coffee clearly dominates as the main source of agricultural cash income, yielding 1.75 times the gross revenues of all other crops combined on a per farm basis. It is grown by nearly 90 percent of farm households in the study area. All coffee is marketed through the Kirinyaga District Coffee Cooperative Union facilities in Sagana.

STUDY AREA AGRICULTURAL PRODUCTION STATISTICS, 1987

Crop	Per Farm Household			% of HHs that Grow (%)
	Avg. Acres Grown (Acres)	% of Yield Sold (%)	Ann. Value of Sales (Ksh)	
Coffee	1.12	100	16,778	86
Maize	3.19	41	3,475	100
Beans *	2.87	41	2,721	100
Tomatoes	.12	79	1,182	32
Potatoes	.26	17	606	71
French beans	.02	99	133	5
Other **	.81	61 +	1,468	80 ++

* Some acreage is double-counted owing to intercropping, a practice especially common for maize and beans.

** Acreage for fruit trees is not included, as farmers reported these in numbers of trees rather than acreage.

+ Ranges from 0% for peas to 97% for sugar cane.

++ Ranges from 10% for sugar cane to 80% for fruit.

Maize and beans are grown by all farmers in the study area, often on the same acreage, for both consumption and sale. Both crops are 41 percent commercialized, and, except for portions marketed locally for home consumption, by regulation they are marketed through the National Cereal and Produce Board facilities in Sagana, with traders in Kutus acting as agents for the board.

Tomatoes represent a relatively high-value and highly commercialized crop, and they are traded on the open market. Tomatoes yield the fourth highest gross revenue of any crop in the study area on a per farm basis, and are grown by nearly a third of farm households.

Other crops include potatoes, french beans, sorghum, peas, sugar cane, and a range of vegetables and fruits. Among these, sorghum and bananas are the most prominent.

On the whole, farms in the study area are small: 28 percent are between 4.5 and 6.5 acres, with a like percentage smaller in size. On average, small farm revenues amount to 41 percent of large farm revenues, but earnings vary considerably in accordance with capital intensity. For large and small farms combined, low-capital farms average 46 percent of the average gross revenues per year realized by high-capital farms.

Coffee production is an important factor in cash income from farming. Regression analysis reveals that an additional acre of coffee yields a farmer in the study area approximately fifteen times the additional annual net income yielded by an additional acre of all other crops combined.

Economic activity in Kutus town is not only vibrant but surprisingly diverse. The industrial sector includes sawmilling, cart manufacture, furniture making, hides and skins preparation, leatherworking, tobacco processing, transformer manufacture, slaughtering, brake bonding, shoe manufacture, tailoring, basket making, and diverse crafts. The commercial sector includes general retailing, bookselling, hardware, bicycles, agricultural bulking and trading, cement retailing, soft drink wholesaling, household goods, personal care goods, food sales, textiles, and other goods in larger and smaller shops, kiosks, stalls, and in the open air market. The services sector includes restaurants, hotels, hairstyling, manual small-load hauling, transportation, metal goods repair, vehicle repair, tire repair, a petrol station, mechanical repair, electrical repair, guards, barbers, teachers, administrators, real estate, religious services, drivers, and much more.

The 377 businesses in Kutus that operate out of fixed places of business employ an average of between one and two employees full time, and about one employee part time. This means that each such business can be thought of as occupying the equivalent of about three workers including the owner and quite often at least a small amount of family or other unpaid labor as well.

Industrial enterprises have the smallest average number of full-time employees of the three urban sectors, and the largest number of part-time employees, despite its relatively high average wage rate. As might be expected, startup costs are highest in industry; but the capital/labor ratio and profits per worker are lowest. These could be further indications that industry is the least vibrant of the three sectors and perhaps has the least potential for significant expansion, except for micro-enterprises requiring little capital. By contrast with industry, commercial establishments, which include trading businesses, have the highest average number of full time employees, the lowest average number of part time employees, the highest capital/labor ratio by far,

and nearly twice the median profits per worker as the other two sectors combined.

PERCENTAGE DISTRIBUTION OF KUTUS BUSINESSES
BY AVERAGE NUMBER OF EMPLOYEES, 1987

Businesses	Average Number of Employees							Total
	0	1	2	3	4	5	>5	
Fixed Places of Business (FPB):								
Industry								
% of total	3.5	2.5	2.5	4.5	0.5	0.5	2.5	16.5
% of industry	21.0	15.0	15.0	27.0	3.0	3.0	15.0	100.0
Commerce								
% of total	9.5	6.5	5.0	1.5	0.5	0.0	3.0	26.0
% of commerce	36.5	25.0	19.0	6.0	2.0	0.0	11.5	100.0
Services								
% of total	4.5	3.5	1.5	2.0	0.5	0.0	2.5	14.5
% of services	31.0	24.0	10.0	13.0	3.0	0.0	17.0	100.0
All FPB								
% of total	17.5	12.5	9.0	8.0	1.5	0.5	8.0	57.0
% of FPB	30.5	22.0	16.0	14.0	2.5	1.0	14.0	100.0
Open Air Market (OAM)								
% of total	24.5	5.0	4.5	1.5	0.0	0.0	0.0	35.5
% of OAM	69.0	14.0	12.5	4.0	0.0	0.0	0.0	100.0
Transportation								
% of total	3.0	3.0	4.0	0.0	0.0	0.0	0.0	10.0
% of transp	30.0	30.0	40.0	0.0	0.0	0.0	0.0	100.0
Total All	45.0	20.5	17.5	9.5	1.5	0.5	8.0	100.0

Notes: Includes full- and part-time employees, but not owners.

Figures have been rounded to nearest 0.5; totals do not actually add to 100 because of rounding.

On the whole, businesses in Kutus are quite small, most being a part of what is often referred to as the informal sector. The table above shows that when all businesses are included 45 percent provide employment only for the owner and 65 percent provide employment for the owner and one other worker either full or part time. Only 8 percent employ more than 5 full or part time workers.

Half of all businesses in Kutus were started in the past five years, and over 80 percent of all current businesses were started since 1970. Survey data suggest a Kutus town economy that has had a measure of strength for some time and has seen acceleration in growth of numbers of both small and large businesses in recent years.

Of the 377 Kutus enterprises operating out of fixed places of business, 92 are located in the new southern commercial area or in nearby neighborhoods. The observer wandering through the new commercial area sees tidiness and solid modern structures, including a new open air market that remains unutilized owing to lack of utilities, but a lightness of activity at an unhurried pace. The older northern commercial area situated on the main road, on the other hand, is somewhat ramshackle, untidy, and chaotic, but teems with economic activity conducted mostly in the open air.

If the new commercial area is properly served with utilities and convenient access, and if certain improvements are made in the old commercial area, Kutus will have the physical conditions for efficient long-term economic expansion. If the current rate of economic expansion in Kutus continues unabated, both the old and new commercial areas are likely to be thriving by the turn of the century.

COFFEE, MAIZE, AND TOMATO MARKETING AND INPUT SUPPLY IN THE KUTUS REGION

Rather than viewing agricultural production as a broad aggregate, this study focused on the rural-urban exchanges and income multiplication effects associated directly and indirectly with marketing and input supply related to three "key" commodities in the Kutus area: coffee, maize, and tomatoes. Coffee was selected because it is the dominant cash crop; maize was chosen because of its importance both as a staple grown by virtually all farmers and as a commodity for domestic markets; and tomatoes, representing the fourth highest gross sales per farm household, were selected as representative of a class of commodities in the region with similar potential and unregulated marketing channels.

On the whole, agriculture in the study region, as reflected in coffee, maize, and tomatoes, is prospering. However, the results of this study suggest several possibilities for improving levels of production, producer prices, input costs, value added, and income multiplication associated with agricultural marketing and input supply in the study area.

Marketing

Productivity in coffee production is limited by payment delays from the coffee union to the coffee societies. Delays in payments accruing to societies from coffee sales force coffee cutbacks in credit extension upon which many farmers depend for purchase of production inputs. The fact that the productivity level of farmers who do not use fertilizer is about one-third the level of those who do use fertilizer suggests that eliminating payment delays would have a material beneficial impact on coffee production.

The prices farmers receive for maize is depressed by delays in payment to maize store traders from the NCPB, the marketing parastatal. Payment delays inhibit store traders from purchasing maize from farmers and thereby force farmers to sell at lower prices to open air market traders. The price a farmer receives from store traders is roughly 10 percent higher than from open air market traders. Procedures resulting in more timely payments to traders would

increase competition among buyers and likely result in improved producer prices.

The producer price for maize is also depressed by controls placed on marketing that commodity. Relaxation of price and movement controls would likely draw additional traders into the market and broaden marketing options for farmers, yielding higher producer prices that in turn would stimulate expanded production. To the extent that more maize trading took place in Kutus, higher levels of income multiplication in Kutus and the surrounding area would also result. The same applies to beans.

Farmers unable to grow tomatoes under irrigation have half the number of harvests as those who irrigate. Moreover, off-season prices for tomatoes are as much as five to seven times higher than regular season prices. Increased use of small-scale irrigation technologies in tomato growing areas near water, particularly in the eastern part of the study area, would substantially increase returns to tomato production.

Roads connecting coffee societies and factories that become impassable in wet weather interfere with collection of coffee for delivery to Sagana. This has the effect of increasing costs of society operations, which narrows the margin farmers receive for their product. It also effectively lowers productivity owing to spoilage. The problem is most severe in the highest potential coffee areas in the northern part of the study region, where slopes are steepest and rainfall is heaviest.

Poor farm to market roads increase costs of transporting both maize and tomatoes and thus decrease farmer returns. Of the 45 percent of surveyed farmers who complained of difficulty in getting their goods to market in Kutus, the vast majority listed impassable roads as the major reason. The problem is more severe for tomatoes than maize, as farmers make higher cash outlays for transport of tomatoes, and tomatoes are more perishable. Thus, priorities for addressing this problem should focus on the eastern portion of the study area.

A high differential prevails between the prices paid tomato farmers in the Kutus market by long-distance traders and the prices those traders receive in Nairobi. The margin amounts to roughly 42 to 67 percent, accounted for in part by high expenditures on transportation costs and labor outside the study area. Measures that would capture for study area households more of the value added in the Nairobi price would increase returns to farmers and facilitate higher levels of capital investment, that could result in expanded production. This would also increase income multiplication in the study area, to the benefit of both farm and town households.

Input Supply

The coffee union's tendering and ordering process results in shortages and delays in the supply of important inputs to farmers, which reduces productivity and raises input costs. In the worst cases, inputs are completely unavailable to farmers for a period of time. Sometimes when the ordered stock of inputs is delayed the union is able to purchase stocks locally, albeit in smaller quantities and at higher prices, which are then passed on to farmers. Since supply

of most inputs for all crops in the study area comes through the coffee union, this matter affects all commodities. A more timely and efficient tendering and ordering process would improve productivity and reduce input costs to farmers.

The import licensing process also causes shortages and delays in the supply of inputs to farmers. Relaxed regulations and a more administratively efficient process on the part of the government would expedite the supply of imported inputs and increase agricultural productivity in the study area.

Roads connecting coffee societies and factories that become impassable in wet weather also interfere with supply of inputs from society to factory to farmer. Once the society obtains inputs there is no certainty they will arrive in the hands of farmers in a timely manner. During rainy seasons it becomes extremely difficult for societies to distribute inputs to factories. At worst, farmer productivity suffers from lack of inputs. At best, transportation costs increase to societies and farmer returns are reduced. Again, this affects all crops in the study area.

Controlled prices of fertilizers and seeds have the potential benefit of keeping input costs to farmers low. Unfortunately, the same low prices also serve as a disincentive to private traders who might potentially stock the goods. Given the undependability of input supply through the coffee union, facilitating greater private sector involvement in input supply through relaxation of input price controls would have a beneficial effect on farmer productivity and input costs, and it would also improve income multiplication in the study area.

Paradoxically, in a region with 15 percent unemployment, farmers complain of a lack of labor for production. Almost 30 percent of farmers in the study area mention lack of labor as a constraint on current production. In addition, ten percent of coffee growers who claim they would like to expand production say they are unable to do so because of labor shortages. Any mechanism that would improve farmer access to wage labor would not only result in higher levels of production in both the short and long term, but would also have direct and indirect income generation benefits for Kutus town and the study region as a whole.

RURAL-URBAN EXCHANGE AND INCOME MULTIPLICATION IN THE KUTUS REGION

Overall, survey data reveal a healthy pattern of rural-urban exchange in the study area, with shares in the vicinity of 80 percent of the final prices of coffee, maize, and tomatoes accruing within the region as profits and labor wages or the second round of other expenditures on marketing and production. The total value of sales of these commodities amounts to over KSh. 96,000,000 annually. These sales, in turn, result in an accrual of over KSh. 7,500,000 in Kutus and over KSh. 70,000,000 within the rural portion of the study area. In the second round of economic impact, farm households then spend over KSh. 50,000,000 annually on household consumption in the study area, of which over 40 percent accrues to Kutus.

However, a substantial portion of production, marketing, and consumption spending that does not accrue to Kutus is actually spent in Kutus, but ultimately accrues to study area farm households that market their agricultural commodities in Kutus and have household members engaged in business or working in Kutus. Farm households drive the town economy, from which both town and farm dwellers gain and then make 60 percent of their household expenditures in the study area, from which they gain again. This is the sort of rural-urban exchange dynamic desired in RTPCs.

The rural-urban exchange and income multiplication data generated by this study also reveal further opportunities for economic growth in the study area, some of them echoing observations made in the previous discussion of coffee, maize, and tomato marketing and input supply.

Inputs to coffee marketing have relatively low income multiplication effects in the study area. This is due in part to the nonprofit nature of the coffee societies: what would otherwise be profits are reflected in better payments and other benefits to farmers. But it is also due in part to the fact that 90 percent of administrative costs accrue outside the study area. These administrative costs cover not only coffee marketing per se but other activities of the societies, such as input supply. To the extent that more of the costs associated with input supply were spent within the study area, and within Kutus in particular, the local economy to which study area farmers are most closely connected would benefit. An arrangement to make this possible might be worth pursuing as part of an effort to improve the coffee input supply situation mentioned earlier.

A comparatively low share of the final price of maize accrues to farmers in the study area. The combination of price and movement controls and delays in NCPB payments to traders introduce market distortions to the disadvantage of farmers. Measures making possible more competition in maize trading would provide farmers with improved market options and probably yield better producer prices and lower trader price margins. To some extent, this would amount merely to shifting benefits from local traders to local farmers. But improved producer prices are likely to call forth more production, which would result in more trading in the commodity, to the benefit of everyone.

Tomato marketing has comparatively low income multiplication effects in the study area and in Kutus. The reason is because large portions of this commodity are marketed through long distance traders who incur transportation and labor expenses outside the study area. To the extent that this arrangement best suits the needs of farmers and yields them the greatest effective returns, the study area is well served despite the low income multiplication effects from marketing. However, there may be arrangements possible that enable farmers to play a larger role in marketing their tomatoes in Nairobi and thereby improve both their direct returns and income multiplication in the study area.

Though roads are sometimes impassable in wet weather, on the whole farms in the study area have relatively reasonable access to Kutus. Farm households utilize this access heavily to buy and sell to and through Kutus as producers, as urban entrepreneurs and workers, and as consumers. This phenomenon highlights the

importance of access for tapping the income generating power of rural-urban exchange, but also hints that even more such spending could be facilitated by further improved access and urban commercial facilities. It is likely that improved commercial facilities would also yield more spending in Kutus by Kutus residents, who now purchase a variety of goods and services elsewhere for lack of local suppliers.

POTENTIAL INTERVENTIONS

Following are suggestions generated by this study for potential interventions to improve rural-urban exchange, strengthen the role of Kutus as a rural center, and accelerate economic growth in the Kutus area. These should not be taken as recommendations per se, since detailed examination of feasibility, funding, implementation, management, cost recovery, government policy, and related matters pertinent to specific recommendations was beyond the scope of the research effort. These suggestions are offered for further consideration by the government, local authorities and other institutions, donors, and citizens in their efforts to promote rural-urban balance in the Kutus area and elsewhere in Kenya.

A. Physical Capital

1. Market Infrastructure in Kutus
2. Small Workshop Space in Kutus
3. Coffee Input Supply Depot in Kutus
4. Wholesale Produce Bulking Depot in Kutus
5. Improved Society-to-Coffee Factory Roads in the North of the Study Area
6. Improved Farm-to-Market Roads in the East and South of the Study Area
7. Irrigation Technology for Tomatoes

B. Institutional Capital

8. Cooperative Tomato Marketing through Kutus
9. Kutus Labour Exchange in Kutus
10. Revolving Loan Fund for Small Businesses in Kutus

C. Policy and Procedure

11. Relax/Remove Price and Marketing Controls on Maize

12. Eliminate NCPB Payment Delays to Traders or Shift Incidence of Delay to the Public Sector
13. Relax/Remove Agricultural Input Price Controls
14. Streamline Procedures for Agricultural Input Importation
15. Expedite Coffee Union Tendering/Ordering of Farm Inputs
16. Eliminate Coffee Union Payment Delays to Societies or Shift Incidence of Delay to the Source

LESSONS FOR RURAL-URBAN BALANCE AND THE RTPC PROGRAMME

In some respects the selection of the Kutus area for this pilot study was initially thought to be an unfortunate choice. It was suspected that Kutus would be found to have been relieved of much of its potential regional urban economic role by the several larger towns and Nairobi to which access is so convenient from the area, and this would deprive the study of a typical case of an RTPC. The high agricultural potential and relatively high levels of income in the area, and also the relatively good rural road network, were further causes for concern that the Kutus case would not yield broadly useful insights.

The researchers now believe the Kutus area to have been an extremely fortunate selection. Many of its characteristics offer clues to the potentials of successful RTPCs. Kutus was found to be playing a major and pivotal role in the economy of its surrounding area despite the competition of larger urban centers. And the role it is playing is very much the sort of role envisioned in rural-urban balance and the RTPC Programme. Yet, in Kutus and its surrounding area research identified no shortage of opportunities for public investments to enhance rural-urban exchange, agricultural development, urban development, and creation of off-farm employment opportunities for members of rural households.

Nevertheless, readers are cautioned that the following lessons for rural-urban balance and the RTPC Programme are based on a single case study.

Lessons for rural-urban balance:

1. The government's decision to stress agriculture as the basis of rural-urban balance is correct.
2. The emphasis in rural-urban balance on linkages between rural and urban activities as a means of increasing agricultural productivity is sound.
3. The government's objective of encouraging a broad spectrum of small-scale, nonfarm activities in small towns is feasible and sound.
4. The expectation underlying rural-urban balance that small towns can absorb rural population is correct.

5. Price controls and associated procedures and regulations on certain agricultural commodities generate effects that run counter to the objectives of rural-urban balance.
6. Import quotas and price controls on farm inputs generate effects that run counter to the objectives of rural-urban balance.
7. Policies designed to promote large-scale industrial operations at the expense of small-scale operations run counter to the objectives of rural-urban balance.

Lessons for the RTPC Programme:

Regarding RTPC selection:

8. RTPCs should be located in areas with reasonably good agricultural potential.
9. RTPCs must be reasonably accessible from larger towns or regional centres.
10. There must be, or be the potential for, a critical mass of agricultural production and farm population within an area of relatively easy access to the RTPC and in which the RTPC has a comparative advantage as a trade centre.

Regarding RTPC research needs:

11. Determination of RTPC investments should be supported by research on linkages and exchange between the town and its hinterland.
12. RTPC research should explore ways of increasing income from agricultural production as well as multiplying this income in the local area.
13. RTPC research should examine linkages between the RTPC and larger towns and regional centres.

Regarding RTPC interventions:

14. Good access between the RTPC and farms in its hinterland is essential for RTPC success.
15. Facilitating trade and commercial exchange within the RTPC through supportive infrastructure is a high priority.
16. The order of growth potential for sectors within RTPCs appears to be commerce, services, industry. However, there is potential for very small scale operations in all sectors, and facilitating such operations will enable the unique hidden economic growth opportunities of each RTPC to emerge over time in response to market demand.
17. Interventions should not be restricted to physical infrastructure; technical assistance, training, financial services, and local administrative and

regulatory reform, sometimes at locations other than the RTPC, may be just as important.

ADAPTING THE STUDY METHODOLOGY

On the whole, the study methodology as described briefly in Chapter 1 of the full report is appropriate and suitable for application to other RTPCs. However, some modifications in the research focus are in order, some measures to increase research efficiency should be taken, and some hard decisions concerning resources dedicated to RTPC research need to be addressed before engaging in additional efforts of this sort.

A. Research Focus

1. Expand research on internal operations of the RTPC economy.
2. Expand research on rural-urban investment patterns.
3. Expand research on recent patterns of change.
4. Study the designated key commodity systems in greater depth.
5. Study forward and backward linkages further afield, including linkages with other towns.
6. Study macropolicy issues in greater depth.
7. Deemphasize the baseline aspects of research.

B. Improving Research Efficiency

8. Prepare a handbook of research procedures.
9. Define the study area more carefully.
10. Train research teams to undertake RTPC studies.
11. Adapt the commodity system approach to realities in each case.

C. Research Resources

12. Target the research and define its objectives very carefully, and provide funding adequate to the task.
13. Formulate an RTPC research program that includes preparatory work, such as development of an RTPC research handbook, and identifies a sequence of RTPC studies coordinated with selection of RTPCs and implementation schedules for RTPC investments. The program should be institutionalized, and a permanent coordinator should be designated.

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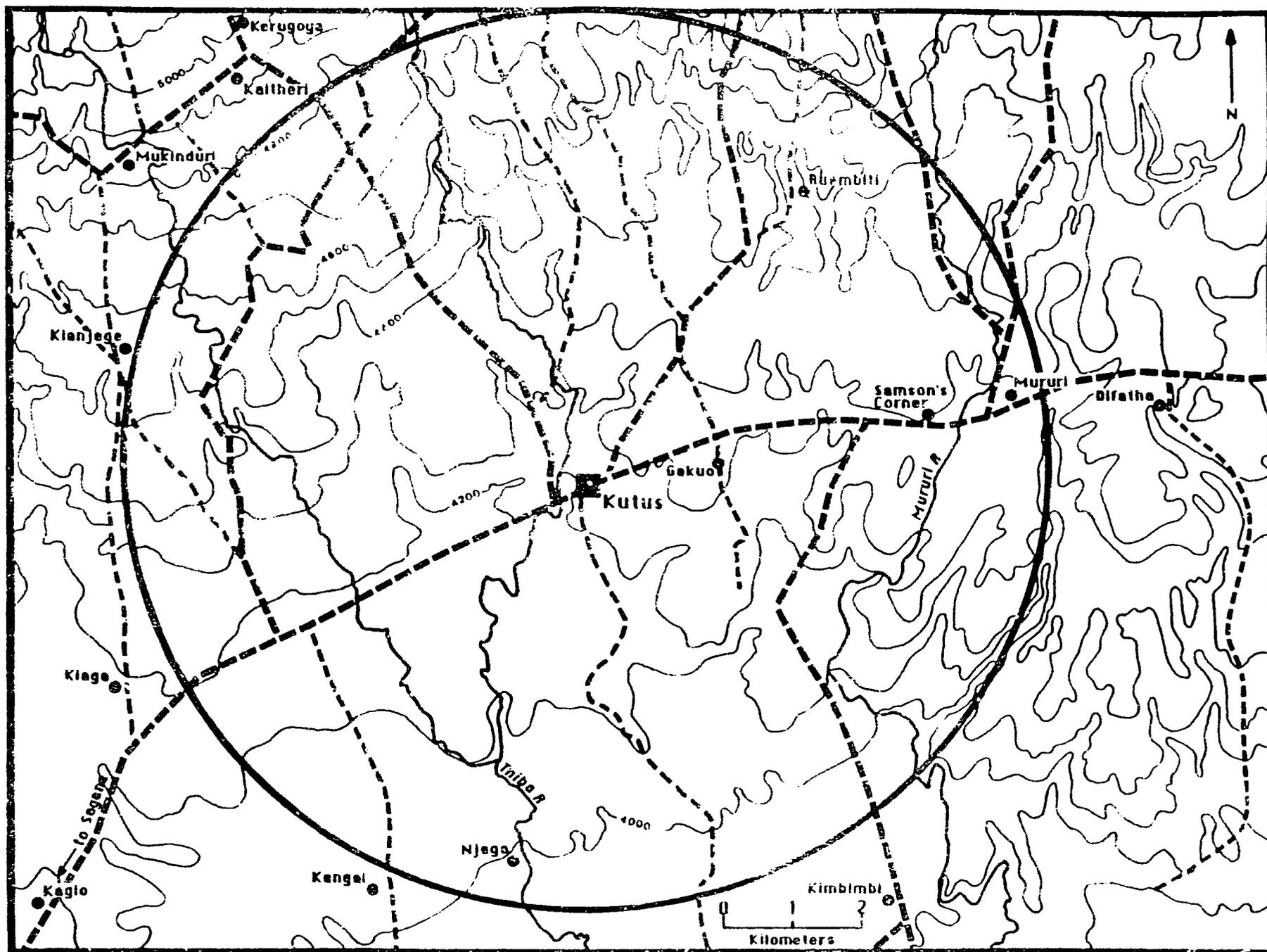
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Kutus Study Area

I. INTRODUCTION

A. Context And Purpose of the Kutus Area Study

The Republic of Kenya's Sessional Paper No. 1 of 1986, "Economic Management for Renewed Growth," sets forth the government's approach to long-term economic development. An integral part of that approach is rural-urban balance. The term "rural-urban balance" refers, as discussed in Chapter 4 of the Sessional Paper, to a strategy of local level "...investments [that] will take full advantage of the opportunities for small town and secondary city development that will arise from a rapidly growing agriculture." The Sessional Paper not only sees agriculture as the primary basis for orderly and productive expansion of small towns and secondary cities, but notes as well that "...market centres throughout rural areas [are] essential to support the expansion of agriculture and to facilitate the growth of related off-farm employment opportunities." Rural-urban balance thus explicitly recognizes the interdependence of agricultural development, urban development, and creation of off-farm employment opportunities for members of rural households.

The Sessional Paper is clear about the government's intent to rely on the private sector to accelerate rural economic growth, and about the role of government in facilitating this in the context of rural-urban balance: "Over the coming years, government guidelines to District Development Committees and local authorities will place greater emphasis on building infrastructure that helps the private sector to create more productive employment in small towns and market centers. These government guidelines will incorporate three general principles: giving priority to infrastructure that supports productive activities; strengthening linkages between secondary towns; and channelling resources to small urban centers of high potential."

One important mechanism for implementing rural-urban balance is the Rural Trade and Production Centre (RTPC) Programme. As described in the Sessional Paper, "The purpose of this programme is to concentrate scarce resources for urban infrastructure in a limited but growing number of selected rural centres which have the best potential for supporting agriculture and its linked productive activities, including processing, manufacturing and services." A package of investments in an RTPC is meant to comprise "...basic infrastructure required to support agriculture and other productive activities,...and typically would include some combination of rural roads, water, power, post office, telephones, youth polytechnics, markets and other facilities directly related to agriculture or small scale manufacturing and trading enterprises."

As the government was formulating preliminary guidelines for the RTPC Programme and identifying the districts from which the first group of RTPCs would be selected, it sought to begin to address the need for research in support of the programme. Research was needed: to shed light on the types of investments that would yield development returns envisioned in the program most efficiently and effectively; to establish baseline data for RTPCs to compare with similar data collected after completion of RTPC investments so as to be able to evaluate the program; and to examine fundamental assumptions behind rural-urban balance and the RTPC Programme and develop further guidance for carrying them out.

The Settlement and Resource Systems Analysis Cooperative Agreement (SARSA), a research and field support project of the U.S. Agency for International Development, Bureau for Science and Technology, Office of Rural and Institutional Development, possesses specialist capabilities in a number of subject areas related to regional development, including rural-urban dynamics. SARSA was asked to lend its research capabilities, in collaboration with a senior Kenyan researcher and local field survey enumerators, to addressing research needs in support of rural-urban balance and the RTPC Programme. A modest initial research effort focusing on one out of the first group of eight RTPCs was agreed upon.

Thus, the study of rural-urban exchange in Kutus town and its hinterland that is reflected in this report had three primary purposes: to yield insights into potential RTPC interventions in Kutus and the nearby vicinity, with emphasis on strengthening means by which the town and the surrounding farms each promote economic growth of the other; to develop baseline information on the area especially suited to evaluating effects of the RTPC Programme several years hence; and to provide guidance for rural-urban balance policy and implementation of the RTPC Programme. Secondary purposes were to take the first steps toward developing a field research methodology that could be used for other RTPCs and identifying minimal research support requirements for the RTPC Programme. Because it was desired that findings of the study be useful to other development endeavors related to rural-urban balance in addition to the RTPC Programme, the researchers were instructed not to limit their consideration of potential interventions in the Kutus area to the basic infrastructure investments called for under the RTPC Programme.

Overall design of the research effort evolved through a series of exchanges among the Government of Kenya, A.I.D., and SARSA that extended almost a year. This dialogue produced three documents that defined the scope, issues, purposes, and approach of the research: "Rural-Urban Balance: The Private Sector Key," (9 May 1986); "Keys to the Rural-Urban Balance Strategy," (8 September 1986); and "Research Workplan for Keys to the Rural-Urban Balance Strategy," (13 March 1987). The research parameters spelled out in these documents are reflected in the SARSA research methodology discussed below. It was recognized by all parties to the research that great prudence would need to be exercised in drawing broad conclusions from research concerning a single RTPC and its hinterland. But it was felt that important knowledge could be gained nevertheless, and that such a pilot experience was crucial to clearer articulation of longer term RTPC research needs.

B. The SARSA Research Methodology

The methodology employed in the Kutus area study is based on SARSA's Rural-Urban Exchange (RUE) research framework. This framework is particularly well-suited to the study because, like rural-urban balance, it takes agricultural production as the lead economic activity in the income generation and development process. The basic proposition behind the RUE framework is the same as that behind rural-urban balance and the RTPC Programme: economic exchange between farms and towns is the main engine of broad-based income generation in rural areas, and rural economic growth is therefore most effectively fostered

through measures that enable farms and towns to expand their roles as suppliers and markets for each other.

Under the essential RUE conceptualization, farm-town exchanges can be thought of in terms of three broad categories: exchanges related to marketing agricultural commodities, exchanges related to purchasing agricultural inputs, and exchanges related to farm household expenditures. In the first instance, income is generated by marketing agricultural commodities. That income is multiplied into additional income, particularly for people in towns in the area, when it is spent locally on agricultural inputs and farm household goods and services. It is multiplied still further when it is "respent" locally on inputs to town-based activities and on goods and services for town households.

The intervention identification methodology that derives from this entails three basic steps: (a) field surveys to document the three categories of farm-town exchange and the local income multiplication effects associated with them; (b) analysis of the data for indications of potential interventions to strengthen local income generation in the three categories of exchange; (c) further analysis to derive a set of preferred potential interventions at specific locations in the area.

Rather than viewing agricultural production as a broad aggregate, SARSA adapts the basic methodology to a particular rural area by concentrating field research on the rural-urban exchanges and income multiplication effects linked to key commodity systems in the region. Under the RUE framework, the term "commodity system" refers to the system of production, marketing, input supply, and household expenditures associated with a particular agricultural commodity. In other words, a commodity system is made up of the three categories of rural-urban exchange as linked to a specific farm commodity.

Focusing on a small number of key commodity systems limits field research to economic exchanges and other activities from which most income connected either directly or indirectly to agriculture in the region is earned. This makes it possible to cover the most important economic activities in the area, from a rural-urban exchange perspective, with a limited research budget. It also means that the interventions ultimately identified will be ones that improve the income generating capabilities of important systems of production and exchange already working in the region. These interventions will therefore tend to be of a type that makes it possible for local farmers and other entrepreneurs to increase their incomes through measures that build on existing skills and activities.

For the Kutus area, coffee, maize, and tomatoes were selected as the key commodity systems. Coffee was selected because it is the dominant cash crop, grown by nearly 90 percent of farm households in the study area. Maize was chosen because of its importance both as a staple grown by virtually all farmers and as a commodity for domestic markets. While tomatoes are not a commodity that is now especially prominent in the study area, they appear to have a growing market and are representative of a class of commodities in the region with similar potential and unregulated marketing channels.

Interviews, survey questionnaires, and reviews of records were employed to collect information at the Kutus market and small "shopping centers" in the countryside, and from farm households, town households, commodity traders, town businesses, institutions, officials, and others in the Kutus area. Data relating to the three key commodities and the region as a whole were also collected from various sources in Nairobi. Information collected included primary statistical information, secondary statistical information, anecdotal information, previous studies, subjective evaluations, and documentation of policies and procedures.

Two broad types of information were collected, one documenting the systems of economic incentives and responses operating in the key commodity systems, and the other documenting factors in the larger socioeconomic and administrative environment that heavily influence the systems of incentives and responses. Information on the systems of economic incentives and responses included basic economic information such as prices, quantities produced and traded, costs of production and trade, price margins, typical forms of payment, natures of buyers and sellers, frequency of trading, and related types of information, all for each of the points of transaction in each of the commodity systems. Data on the larger socioeconomic and administrative environment included information on family structure and household member roles, infrastructure, technologies and production methods, other sources of household income, finance and investment, institutional arrangements and procedures, related macropolicies, final market characteristics, and the like. This information was organized so as to provide an account of each of the key commodity systems, with special attention to their spatial manifestations and rural-urban exchange characteristics.

"Horizontal" analysis -- that is, analysis of each key commodity system in turn -- was then undertaken to develop economic indicators of potential intervention opportunities for each commodity system at various points in the Kutus area. Examples of such indicators are low productivity, low producer prices, high input costs, high price margins to the disadvantage of the local economy, and low income multiplication effects. Information on the larger socioeconomic and administrative environment was analyzed to explain these indicators and to develop initial ideas about possible interventions that would yield increased returns to farmers, increased nonfarm value added in association with the commodity, expanded trade between farms and towns, and/or increased local income multiplication effects.

This was followed by "vertical" analysis, in which initial findings for each commodity system were compared among commodity systems. The aim of this exercise was to identify points of spatial and functional overlap among commodity systems and potential interventions related to them, so as to highlight interventions likely to have the most widespread benefits. An iterative process of examining intervention options was then undertaken to assess their effects on all three commodity systems and on associated income multiplication in Kutus town and the surrounding area. Though not required in the workplan, the researchers intended to run a quantitative assessment of intervention options in semi-simulation fashion, but research resources were exhausted before that was possible.

The results of this methodology are the basis for the following chapters of this report. These chapters, however, are not organized in accordance with the sequence of steps in the methodology. Rather, they are organized in accordance with the presumed interest of most readers to gain insights into (a) the characteristics of rural-urban exchange and income multiplication in Kutus and its hinterland, (b) possible interventions to enhance local income generation in the Kutus area, and (c) lessons for rural-urban balance and the RTPC Programme as a whole.

C. Outline of This Report

The next chapter provides an overview of the Kutus region, with emphasis on expressions of its current economic expansion and on rural-urban relations and comparisons. While the information presented generally is not integral to the analytic aspects of the study, it does constitute a significant component of the "baseline" information requested by the Government of Kenya. Information in Chapter II is also important to a full appreciation of the more limited scope presentations in subsequent chapters.

Chapter III contains discussions of the marketing and input supply aspects of the coffee, maize, and tomato commodity systems in the study area. These are followed by a conclusions section that summarizes indications of economic growth opportunities inherent in operations of the three the commodity systems.

Chapter IV focuses in greater detail on the statistical expressions of rural-urban exchange and income multiplication associated with the three commodity systems, but addresses as well rural-urban exchange and income multiplication associated with consumption expenditures in the study area. These are then combined in a summary section that examines the rural-urban exchange and income multiplication effects in particular on the Kutus town economy, followed by conclusions regarding opportunities for economic growth in the study area.

Chapter V suggests 16 possible interventions to improve rural-urban exchange, strengthen the role of Kutus as a rural center, and accelerate economic growth in the Kutus area, based on material in the previous chapters. These are grouped by physical capital, institutional capital, and policy and procedure.

Chapter VI sets out lessons for rural-urban balance and the RTPC Programme derived from research in the Kutus Region. First, data from the Kutus area study are employed to examine assumptions behind rural-urban balance and the RTPC Programme. Then, findings regarding policy and implementation programming are listed and explained.

Appendices A and B are for the reader concerned with details of the sampling procedure and the questionnaire modules used for farm households, town households, town businesses and small scale enterprises, and marketplace traders and artisans in the study area.

Appendix C provides observations on adapting the study methodology for further use in the RTPC Programme.

II. KUTUS REGION OVERVIEW

The emphasis in this report is on the current and potential role of rural-urban exchange as an income generating and development force in Kutus town and its surrounding area. The present chapter provides minimal essential background information in terms of the locational setting and the institutional, demographic, employment/income, agricultural, and urban contexts at the time of the study. The focus in much of this material is on relations and comparisons between Kutus and its hinterland.

The reader interested in more background information on the study area, and on Kirinyaga District in which it is located, is referred to "Kirinyaga District Development Plan 1984/88," published by the Ministry of Finance and Planning, Republic of Kenya. Some material has been borrowed from the District Plan to round out this chapter; as a general rule, however, information available in the District Plan is not repeated here.

Most of the information in this chapter was generated during field survey work for the Kutus area study. While this information is not an integral part of the fundamental analysis of the study, it does constitute a significant component of the "baseline" information requested by the Government of Kenya. When the Kutus area is studied again after completion of investments under the RTPC Programme, changes in characteristics documented in this chapter will yield important insights into rural and urban development consequences of rural-urban balance policies and local implementation of the RTPC Programme.

A. Location of the Study Area

Kutus town is located northeast of Nairobi, about an hour and a half away by motor vehicle over paved roads. It lies more or less in the center of the settled area of Kirinyaga District to the south of Mt. Kenya Forest. The study area can be roughly described as a circle with a seven-kilometer radius around Kutus town. It covers about 11 percent of Kirinyaga District and 14 percent of the district outside of Mt. Kenya Forest.

The study area can be characterized as a midlands transition area. It encompasses lands ranging from relatively steep-sloped with high agricultural potential at elevations up to about 4,800 feet in the north to gently-sloped with medium agricultural potential at elevations down to about 3,900 feet in the south. Mean annual rainfall ranges from about 1,200 mm. in the northwest to about 800 mm. in the southeast. It thus includes areas designated as coffee, marginal coffee, sunflower-maize, and cotton agricultural zones. However, no sunflower or cotton were found to be grown in the study area.

The market center character of Kutus is reinforced by its location at the convergence of several major paved roadways linking the larger settlements of the district. In fact, it is the hub of a network of trunk roads linking the district with larger towns and cities such as Embu to the east and Nairobi to the south. The rail connection for the study area, however, is at Sagana, 20 kilometers to the southwest.

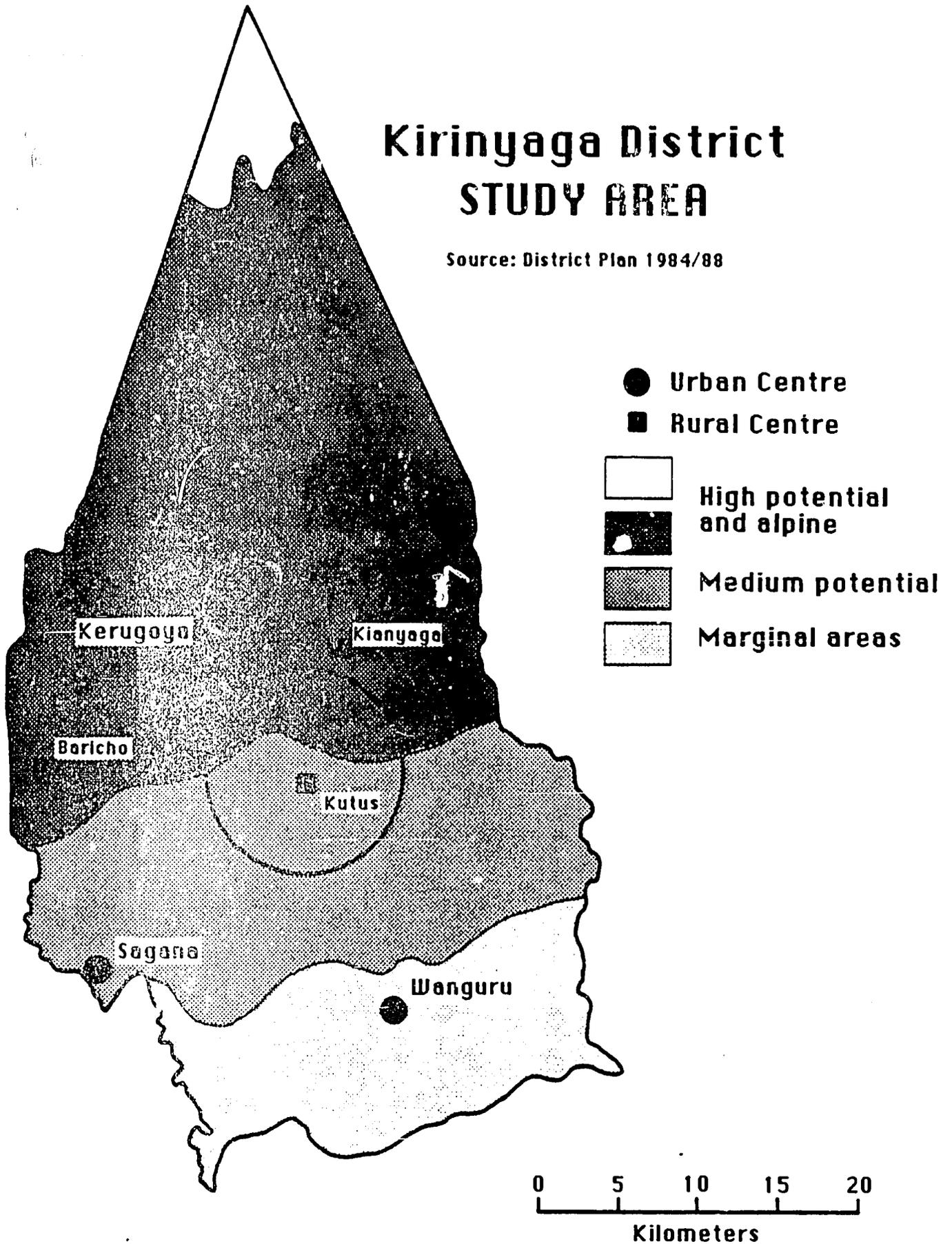
Kenya KIRINYAGA DISTRICT

Source: District Plan 1984/88



Kirinyaga District STUDY AREA

Source: District Plan 1984/88



Kutus also lies at the convergence of Mwea, Ndia, and Gichugu divisions of Kirinyaga District, and includes portions of each of them within its boundaries. District administrative offices, however, are located at Kerugoya, ten kilometers northwest of Kutus.

B. Development Institutions

GOVERNMENT

Central government ministries support urban and agricultural development directly through district level offices, such as the District Agriculture Office which provides extension services. Direct central government ministry support to economic development in the district expresses itself most effectively and extensively through an expanding network of infrastructure, including primary and secondary roads that link the area to markets and supply sources outside the district, major bridges, water supply, and electricity.

The Kirinyaga County Council covers the portion of the district outside the jurisdiction of the Kerugoya/Kutus Town Council. It operates four major Departments: Community Development, Veterinary-Agriculture, Markets and Trade, and Works-Roads. The County Council is responsible for provision of rural social services such as housing, nurseries, and vocational education, for veterinary services, for market town development, for minor bridge repairs, and for maintaining rural roads, including access roads to coffee factories and rural shopping centers. Table 2.1 summarizes income and expenditure for the Kirinyaga County Council in 1985/86. In three of the past six years the council has run a deficit: its responsibilities are extensive and its revenue sources limited. The Kirinyaga County Council has limited capacity to support local economic development from either a financial or technical standpoint.

The Kerugoya/Kutus Town Council was upgraded from urban council to town council status in 1987. It includes an Administration Department, Civic Department, Education and Social Services Department, and Markets and Trade Development Department. It is responsible for nursery schools, sports, and training; development and maintenance of market facilities and town infrastructure; trade and business applications, fees, rents, and charges; town plans; and market supervision. Table 2.1 summarizes income and expenditure for the Kerugoya/Kutus Town Council in 1985/86. The council has run a surplus over the past six years, and it has shown keen interest in utilizing its resources for market development, especially in Kutus town. It has created a new commercial area about a kilometer on the other side of the main road from the old market, and is in the process of extending water and electricity to it.

The District Development Committee (DDC) provides the framework for cooperation and coordination among central government ministry offices and the local authorities. The DDC has a variety of sub-committees, such as the Executive Committee, Joint Loans Board, Land Control Board, District Licencing Board, and District Works Committee. Administrative authority at the district level rests with the District Commissioner, who is assisted by a Divisional Officer at the division level, a Chief at the location level, and an Assistant Chief at

Table 2.1

KIRINYAGA COUNTY COUNCIL AND KERUGOYA/KUTUS TOWN COUNCIL
INCOME AND EXPENDITURES 1985/86
(in Kenya Pounds)

Department	K.C.C.		K.K.T.C.	
	Income	Expenditure	Income	Expenditure
Administration	87330	169091	4250	33339
Civic dept.	0	21980	0	7050
Edu./soc. serv.	20275	200709	3500	21663
Mkts./trade dev.	112281	63483	90898	53076
Land rates,				
plot rent	20800	0	7400	0
Poll rates	4500	0	1500	0
Crop cess income	406562	0	30702	0
Play grnd.,				
park, cemetery	800	1784	0	0
Agr./veterinary	4780	61469	0	0
Works/roads/rental & housing/water supply	122300	454104	0	0
Totals	779628	972620	138250	115128
Surplus/Deficit	-192992		23122	

Source: Ministry of Local Government and Urban Development
Budget Estimates 1985/6

sub-location level. These administrative heads are also the chairmen of development committees at their respective levels.

The development committees are composed of technical staff of government ministries at each level, representatives of local authorities, and leaders from local community and business organizations. They are expected to meet regularly to make local policy decisions and coordinate implementation of local development projects. The DDC and its sub-committees, for example, decide on allocations of district grants, funds, loans, tenders, and licenses.

In practice, only the DDC has been fully active. Development committees at other levels are not yet effectively operational, and chief's meetings, called "barazas," at which people are informed of decisions from higher levels and local matters are debated, remain the main form of local participation.

PRINCIPAL PARASTATALS

The National Cereal and Produce Board (NCPB), with district headquarters and depot in Sagana, is responsible for marketing maize, beans, and other crops from the study area other than what is sold for local family consumption. Traders purchase and sell these commodities as agents of the parastatal. Procedures associated with the NCPB are discussed in the following chapter.

The Agricultural Finance Corporation is a parastatal located in Kerugoya that assists development of agriculture and agroprocessing by making loans to farmers and cooperative societies.

The Coffee Board of Kenya (CBK), see Kirinyaga Coffee Cooperative Union, below.

OTHER INSTITUTIONS

There is a wide variety of other institutions and organizations that play economic development roles in the study area. These include committees of local business people and artisans, women's groups, self-help (Harambee) groups, church based organizations, school committees, producer cooperatives, technical schools, and private ventures. A few of the more prominent among them are mentioned below.

The Kirinyaga District Coffee Cooperative Union (Union) is made up of local coffee societies, each of which incorporates several coffee factories. The five coffee societies in the study area account for 35 coffee factories. Each coffee factory services coffee farmers in its immediate vicinity. It is through the union, with headquarters in Kerugoya and warehouse in Sagana, that coffee is collected, initially processed, and delivered to the Coffee Board of Kenya depot in Sagana. The union also supplies production inputs and credit to coffee farmers. Operations of the union are discussed at length in the following chapter.

The Kenya Grain Growers Cooperative Union (KGGCU) is a nationwide farmers union. It has recently established a store supplying farm inputs in Kerugoya, and some farmers in the study area have begun to purchase supplies there.

There are four financial institutions in addition to sources of credit mentioned earlier, all located in Kerugoya. These are the Cooperative Bank and three commercial banks: Commercial, Barclays, and the Central Finance Bank.

The Kirinyaga Technical Institute (KTI), in Kutus, provides grade II training in carpentry, tailoring, construction, electrical work, plumbing, and mechanical work. The institute has also a 60-acre coffee farm and a tea farm outside Kutus. Many small enterprises in the Kutus area have been launched by KTI graduates.

AHITI Ndomba, the Animal Health and Industry Training Institute, near Kutus, is a national institute currently training 400 middle level animal health officers on its 600-acre facility. In addition to its animal health training and research activities, the institute offers a variety of animal health support services to farmers in the area.

C. Population

The District Plan projects the 1987 population of Kirinyaga District at 401,757. Field surveys put 1987 population estimates for the study area at 48,103, as shown in Table 2.2.

Table 2.3 summarizes a few of the current characteristics of the study area population. It shows that more than one-third of Kutus households have been in place less than three years, while this is the case with only about one farm household in a hundred. Indeed, the population of Kutus town has been growing at an average of 9.4 percent per year in recent years.

A large proportion of migrants to Kutus have been attracted from outside the district. The table shows that only half the heads of town households were born in Kirinyaga District, and over half of total migrants to Kutus are from

Table 2.2

		STUDY AREA POPULATION ESTIMATES, 1987			
<u>Other</u>				<u>Kutus</u>	<u>Farm</u>
<u>Nontown</u>	<u>Tot. 1</u>			<u>Town</u>	<u>Households</u>
Number of households	1,294	4,527		1,020	6,841
Average household size	3.69	8.37		5.33	7.03
Population	4,775	37,891		5,437	48,103
Sample Percent of total study area population	9.9	78.8		11.3	100.0
Sample Percent of District population	1.2	9.4		1.4	12.0

Table 2.3

STUDY AREA DEMOGRAPHIC STATISTICS, 1987

	<u>Kutus</u>	<u>Farms</u>
Length of time HH at present location		
0-2 years	35%	1%
3-10 years	28%	12%
11-20 years	8%	14%
21-50 years	26%	51%
over 50 years	5%	22%
Heads of HHs born in Kirinyaga District	50%	97%
Proportion of migrants to the area not from Kirinyaga District	53%	6%
Female proportion of the population	52%	53%
Female/male proportion		
under 18 years	1.0 ratio	1.2 ratio
18 years or older	1.2 ratio	1.0 ratio
Average age of head of HH	36 years	52 years
Study area/Kenya proportion in age groups		
0-14 years	0.8 ratio	0.8 ratio
15-45 years	1.2 ratio	1.2 ratio
over 45 years	0.7 ratio	0.7 ratio
Average age	19 years	23 years
Level of schooling completed by people 18 years or older		
none	14%	25%
standard 1-4	14%	16%
standard 5-8	42%	32%
form 1-4	29%	23%
form 5-6	1%	4%

outside the district. The situation on the farms of the study area is quite different. Virtually all heads of farm households and 94 percent of total migrants to the area are from Kirinyaga District. The subject of migration is examined further in Chapter VI.

In both Kutus and on the farms of the study area women outnumber men. But analysis by youth and adult categories reveals that on the farms younger women outnumber younger men, while in Kutus adult women outnumber adult men.

Heads of households are substantially younger in Kutus than in the surrounding area. This reinforces other indications that the farming portion of the population is largely associated with households long established in the study area, while a sizeable part of the Kutus population is accounted for by newcomers with less mature families seeking fresh economic opportunities.

A further possible indication of the perceived overall economic health of the area is in its population age statistics. In the age group representing prime working years, the proportion in the study area exceeds that in Kenya as a whole. The average age is youthful and higher than nationwide. Average age is higher on the farms, suggesting fewer youthful newcomers than in Kutus.

Not unexpectedly, town dwellers have considerably more formal education than members of farm households. Yet, for reasons about which no firm statements can be made at this time, a higher proportion of farm household members in the survey sample reported having completed their secondary education than was the case among town household members.

D. Household Employment and Income

Data on employment and earnings must be taken against the background of a significant force of unpaid labor, which is common both in Kutus and on the farms. Unpaid labor is usually, but not always, provided by a member of the household. The household member is often a member of the nuclear or extended family and may be a temporary member of the household. In some cases, unpaid labor may be reported by the owner of an enterprise, by a household, or by the laborer as an employee, and in other cases not.

The data in Tables 2.4 and 2.5 are based on household surveys, not enterprise surveys. A single household, therefore, may be represented under more than one work category. Nevertheless, Table 2.4 shows that most Kutus households earn self-employment income inside Kutus. Those engaged in nonfarm self-employment activities outside Kutus do so exclusively outside the study area, not in the nearby rural area. Within Kutus, commercial activities dominate self-employment, with service activities a distant second place. Unfortunately, included in the random sample was the owner of a substantial hotel-restaurant in Kutus, which skewed the earnings statistics for services. Even if the self-employed earnings figure is as much as five times the true average, however, average earnings from services and commerce would still be two to three times the average earnings from industry.

Table 2.4

SOURCES OF STUDY AREA TOWN HOUSEHOLD EMPLOYMENT AND EARNINGS
FROM INSIDE AND OUTSIDE THE STUDY AREA, 1987

Sector of Work	Location of Work	Self Employment		Wage Employment	
		Percent of Households With Member Working	Avg. Ann Earnings of HH From Work (KSh.)	Percent of Households With Member Working	Avg. Ann Earnings of HH From Work (KSh.)
Farming	Kutus	0	0	0	0
	Rural	19	5,075	15	3,982
	Outside	13	8,142	0	0
Industry	Kutus	4	15,750	4	10,800
	Rural	0	0	0	0
	Outside	0	0	2	11,616
Commerce	Kutus	63	45,684	4	9,600
	Rural	0	0	0	0
	Outside	6	23,604	0	0
Services	Kutus	6	154,260	10	22,200
	Rural	0	0	0	0
	Outside	6	6,000	0	0

Examples of activities in the various categories are:

Kutus

Industry: sawmill, cart manufacture, artisanal.

Commerce: retail trade, soft drink distributor, transportation.

Services: hairstyling, restaurant, tyre repair.

Rural

Industry: coffee factory, tailor, charcoal making.

Commerce: retail kiosks.

Services: teaching, water pump rental, driver.

Kutus business is discussed more fully in Section F, below.

Few people leave the study area daily for wage work. Data from the sample show that those who work in the rural portion of the study area are wage workers in farming, as opposed to other rural activities. However, it is known from other sources that Kutus residents do work in coffee factories in the countryside of the study area. The services sector appears to be the sector that provides the highest level of household earnings from wages, with industrial activities both inside and outside the study area and commercial activities in Kutus all within a range about half as high.

The figures suggest that with respect to both self-employment and wage earnings, Kutus industry is not a major income source for Kutus households, a finding not surprising for a small market town. More will be said about this in the last section of this chapter.

Of special interest is the fact that a large number of Kutus households earn self-employment income from farming and nearly 20 percent from farms in the study area. Yet, self-employment cash income from farming inside or outside the study area is substantially less than from any other sector inside or outside the study area. Thus, farming is a significant self-employment activity for Kutus residents, but apparently for reasons other than maximizing current cash income.

On the whole, it appears to pay Kutus residents to do business and work in Kutus and the immediate vicinity to a surprising extent in light of the proximity of other larger urban centers.

Table 2.5 provides the same data for farm households in the study area as Table 2.4 provides for Kutus households. It shows that by and large even farm households derive substantially more of their cash earnings from nonfarming activities than from farming.

With respect to nonfarm self-employment earnings, farm households are diversified in their pursuits of economic activities in Kutus, the rural portion of the study area, and outside the study area. In Kutus, most engage in commerce, which yields the highest earnings, followed closely by services. Commerce and services in Kutus also provide by far the highest levels of earnings of any activity inside or outside the study area.

Wage employment among farm households in the study area shows a different picture in some respects. In this case, activities in the rural portion of the study area and nonfarm activities outside the study area clearly dominate the proportions of households with members engaged in wage employment, and this holds even if local farm wage employment is not counted. The lowest wage earnings are derived from farming in the study area, followed by industry in Kutus, then by rural industry in the study area. In short, Kutus is not particularly attractive as a source of wage employment for farm households; to the extent that it does serve as a source of such employment, the highest proportions work in the services sector, and accordingly, most income is derived from that sector.

Taken together, Tables 2.4 and 2.5 reveal that farm households in the study area are far more diversified than Kutus households both in terms of proportions

Table 2.5

SOURCES OF STUDY AREA FARM HOUSEHOLD EMPLOYMENT AND EARNINGS
FROM INSIDE AND OUTSIDE THE STUDY AREA, 1987

Sector of Work	Location of Work	Self Employment		Wage Employment	
		Percent of Households With Member Working	Avg. Ann Earnings of HH From Work (KSh.)	Percent of Households With Member Working	Avg. Ann Earnings HH From Work (KSh.)
Farming	Kutus	0	0	0	0
	Rural	100	6,608	5	2,820
	Outside	8	5,427	0	0
Industry	Kutus	0	0	1	8,400
	Rural	10	14,266	2	11,760
	Outside	2	22,200	4	15,090
Commerce	Kutus	11	48,900	0	0
	Rural	2	10,797	1	15,600
	Outside	2	24,000	4	17,550
Services	Kutus	4	44,000	11	13,590
	Rural	2	5,240	13	18,450
	Outside	2	22,000	17	24,322

Examples of activities in the various categories are:

Kutus

Industry: sawmill, cart manufacture, artisanal.

Commerce: retail trade, soft drink distributor, transportation.

Services: hairstyling, restaurant, tyre repair.

Rural

Industry: coffee factory, tailor, charcoal making.

Commerce: retail kiosks.

Services: teaching, water pump rental, driver.

Kutus business is discussed more fully in Section F, below.

engaged in different sectors and locations and in terms of levels of earnings in different sectors and locations. Furthermore, it is not an uncommon practice for farm households (other data indicate that these are the more prosperous farm households) to engage in commercial and services businesses in Kutus and in wage employment in the Kutus services sector. Except for farming and for coffee factory wage employment, Kutus households do not turn to the rural portion of the study area for self-employment or wage earnings. This, together with the high proportion of Kutus households with economic bases concentrated in Kutus suggests that, in effect, the economic power of the rural market comes to Kutus.

These findings are supported by Table 2.6. This table shows that Kutus households derive nearly 90 percent of self-employment earnings, 78 percent of wage earnings, and 87 percent of all earnings from Kutus. Farm households in the study area derive about 25 percent of their cash income from farming self-employment, and of this, 23 percent from farming in the study area. Overall, only about 40 percent of farm household cash income in the study area is derived from rural activities; 28 percent is derived from activities in Kutus, and 33 percent is derived from activities outside the study area.

Tables 2.4, 2.5, and 2.6 paint a picture of Kutus as a strong market center and source of livelihood for all households in the study area, with particularly vibrant commerce and services sectors. This, however, does not mean that agriculture is not central to the economy of the study area. It is central on at least three counts. First, apart from providing a significant amount of income to farm households and most income to less prosperous farm households, one can infer from the data that farming plays a major role in the in-kind income, overall cash income, and long-term, risk-management strategies of both farm and town households. Farming appears to provide a food source, safety net, and revenue base for undertaking nonfarm entrepreneurial activities. Second, the commercial sector in Kutus in particular is closely linked to, and heavily dependent upon, agricultural production and marketing. And, as will be seen later in this report, both commerce and services in Kutus depend heavily on spending by farm households from the study area.

E. Agriculture

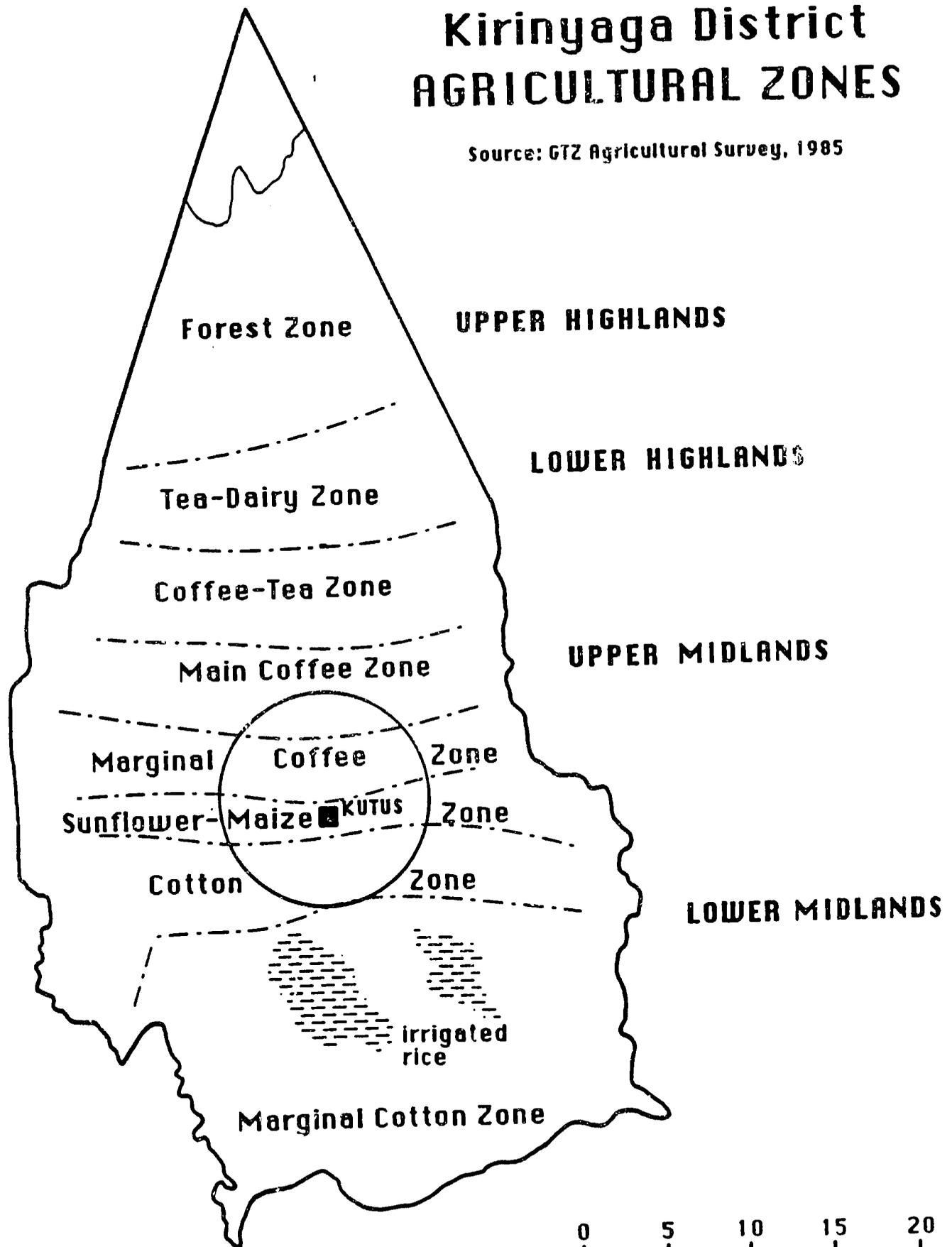
There are approximately 4527 farm households in the study area. Table 2.7 summarizes estimates of their basic crop production statistics. Coffee clearly dominates as the main source of agricultural income, yielding 1.75 times the gross revenues of all other crops combined on a per farm basis. It is grown by nearly 90 percent of farm households in the study area, with over 80 percent of these households devoting 1.75 or fewer acres to it. All coffee is marketed through the Kirinyaga District Coffee Cooperative Union facilities in Sagana.

Maize and beans are grown by all farmers in the study area, often on the same acreage, for both consumption and sale. Both crops are 41 percent commercialized, and, except for portions marketed locally for home consumption, are marketed through the National Cereal and Produce Board facilities in Sagana, with traders in Kutus acting as agents for the board. Tomatoes represent a relatively high-value and highly commercialized crop in the study area. They

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Kirinyaga District AGRICULTURAL ZONES

Source: GTZ Agricultural Survey, 1985



Kirinyaga District PAVED ROADS IN THE STUDY AREA

Source: District Plan 1984/88

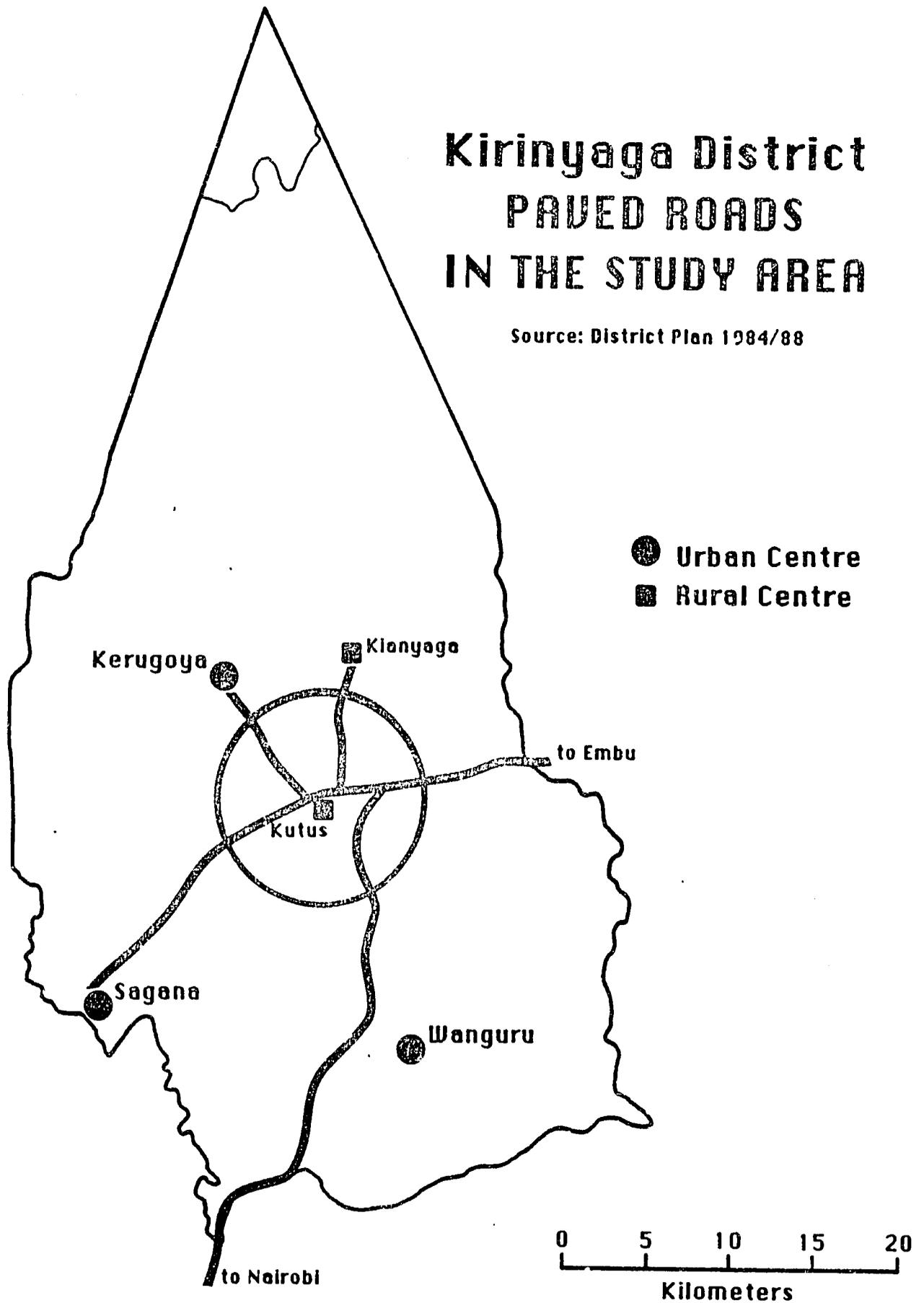


Table 2.6

AVERAGE ANNUAL HOUSEHOLD INCOME IN THE STUDY AREA,
BY TYPE AND LOCATION OF SOURCE, 1987
(in KSh.)

<u>Type of Income</u>	<u>Location of Source of Income</u>			
	<u>Kutus</u>	<u>Rural</u>	<u>Outside</u>	<u>Total</u>
<u>KUTUS HOUSEHOLDS</u>				
Self Employment	39,055	979	3,860	43,876
Town Business	39,055	0	2,764	41,801
Farming	0	979	1,096	2,075
Wage Employment	2,919	613	223	3,755
Remittances	40	217	359	616
Total Kutus				
Per HH	42,014	1,809	4,424	48,247
Per capita				13,075
<u>FARM HOUSEHOLDS</u>				
Self Employment	6,617	8,311	4,159	19,078
Town Business	6,617	0	3,719	10,336
Rural Business	0	1,703	0	1,703
Farming	0	6,608	440	7,048
Wage Employment	1,223	2,533	4,980	8,736
Remittances	30	242	188	460
Total Farm				3,379
Per HH	7,870	11,086	9,327	28,283
Per capita				3,379
<u>Total Kutus and Farms in the Study Area</u>				
Per HH				32,721
Per capita				4,464

are traded on the open market. Tomatoes yield the fourth highest gross revenue of any crop in the study area on a per farm basis and are grown by nearly a third of farm households.

Potatoes account for about a quarter of an acre per farm on average but are grown primarily for household use. French beans represent a highly commercialized crop, with Europe as the final market, and that crop is reported to be expanding rapidly in the study area. Other crops include sorghum, peas, sugar cane, and a range of vegetables and fruits. Among these, sorghum and bananas are the most prominent in terms of acreage devoted to them.

On the whole, farms in the study area are small. The histogram in Table 2.8 shows 28 percent of farms to be from 4.5 to 6.5 acres, with a like percentage smaller in size. Only 7 percent occupy 15.5 acres or more.

Earnings from farming appear to vary considerably in accordance with capital intensity. Table 2.9 shows gross farming receipts per farm household for large and small farms employing low and high amounts of capital. On average, small farm revenues amount to 41 percent of large farm revenues, but low-capital, small farm revenues are only 28 percent of average revenues of high-capital small farms. On the whole, low-capital farms average 46 percent of the gross revenues per year realized by high-capital farms.

Table 2.10 shows that average annual farming net income per acre for farms in the study area is KSh. 3,244. For farms below the median size, the figure is KSh. 2,478, which amounts to about 62 percent of the KSh. 4,023 average for farms above median size. The amount of coffee grown influences the relationship. For small and large farms with below median proportions of acreage in coffee, average net income in the former is 69 percent of average net income in the latter; for small and large farms with above median proportions of income in coffee, net income in the former is only 50 percent of average net income in the latter. Regression analysis reveals that an additional acre of coffee will yield a farmer in the study area approximately fifteen times the additional annual net income yielded by an additional acre of all other crops combined.

F. Business in Kutus Town

The casual observer passing through Kutus on the Sagana-Embu road cannot help but notice the intense economic activity in the vicinity of the old marketplace. Economic activity in Kutus is not only vibrant but surprisingly diverse. The industrial sector includes a sawmilling, cart manufacture, furniture making, hides and skins preparation, leatherworking, rice milling, tobacco processing, transformer manufacture, slaughtering, brake bonding, shoe manufacture, tailoring, basket making, and diverse crafts. The commercial sector includes general retailing, bookselling, hardware, bicycles, agricultural bulking and trading, cement retailing, soft drink wholesaling, household goods, personal care goods, food sales, textiles, and the like, in larger and smaller shops, kiosks, stalls, and in the open air market. The services sector includes restaurants, hotels, hairstyling, manual small-load hauling, transportation, metal goods repair, vehicle repair, tyre repair, a petrol station,

Table 2.7

STUDY AREA AGRICULTURAL PRODUCTION STATISTICS, 1987: FARM HOUSEHOLDS

<u>Crop</u>	<u>Avg. Acres Grown</u> (Acres)	<u>% of Yield Sold</u> (%)	<u>Ann. Value of Sales</u> (Ksh)	<u>% of HHs that Grow</u> (%)
Coffee	1.12	100	16,778	86
Maize	3.19	41	3,475	100
Beans *	2.87	41	2,721	100
Tomatoes	.12	79	1,182	32
Potatoes	.26	17	606	71
French beans	.02	99	133	5
Other **	.81	61 +	1,468	80 ++

* Some acreage is double-counted owing to intercropping, a practice especially common for maize and beans.

** Acreage for fruit trees is not included, as farmers reported these in numbers of trees rather than acreage.

+ Ranges from 0% for peas to 97% for sugar cane.

++ Ranges from 10% for sugar cane to 80% for fruit.

Table 2.8

HISTOGRAM OF STUDY AREA FARM SIZES, 1987

<u>Acres Per Farm</u>	<u>Proportion of Total Farms</u>
0.00 - 1.49	3% ***
1.50 - 2.49	4% ****
2.50 - 3.49	13% *****
3.50 - 4.49	7% *****
4.50 - 5.49	14% *****
5.50 - 6.49	14% *****
6.50 - 7.49	12% *****
7.50 - 8.49	5% *****
8.50 - 9.49	4% ****
9.50 - 10.49	5% *****
10.50 - 11.49	3% ***
11.50 - 12.49	1% *
12.50 - 13.49	2% **
13.50 - 14.49	4% ****
14.50 - 15.49	5% *****
15.50 - 16.49	1% *
16.50 - 17.49	1% *
19.50 - 20.49	1% *
21.50 - 22.49	1% *
29.50 - 30.49	1% *
32.50 - 33.49	1% *
44.50 - 45.49	1% *

Table 2.9

ANNUAL GROSS FARMING EARNINGS PER FARM HOUSEHOLD,
BY SIZE AND EQUIPMENT HOLDINGS, 1987
(in KSh.)

	<u>Small Farms</u>	<u>Large Farms</u>	<u>All Farms</u>
Low Equipment Holdings	7,221	27,816	16,783
High Equipment holdings	25,306	45,832	36,129
All Farms	15,618	37,315	26,369

Explanation: Equipment holdings refers to estimated current value of farm equipment, not including implements. Low and high and equipment holdings refer to holdings below and above median equipment holdings. Small and large farms refer to farms below and above median farm size (about 6 acres). The figures exclude acres and earnings associated with bananas.

mechanical repair, electrical repair, guards, barbers, teachers, administrators, real estate, religious services, drivers, and more.

Table 2.11 shows that the 377 businesses in Kutus that operate out of fixed places of business employ an average of between one and two employees full time, and about one employee part time. This means that each such business can be thought of as occupying the equivalent of about three workers including the owner, and quite often at least a small amount of family or other unpaid labor as well.

Industrial enterprises have the smallest average number of full time employees of the three urban sectors, and the largest number of part time employees, despite its relatively high average wage rate. This may partly explain the relatively low levels of household participation and wage earnings associated with this sector that appeared in Tables 2.4 and 2.5; industry does not seem to offer reliable continuous employment. As might be expected, startup costs are highest in industry; but the capital/labor ratio and profits per worker are lowest. These could be further indications that industry is the least vibrant and perhaps has the least potential for significant expansion, except possibly for micro-enterprises requiring little capital.

By contrast with industry, commercial establishments, which include trading businesses, have the highest average number of full time employees, the lowest average number of part time employees, the highest capital/labor ratio by far, and nearly twice the median profits per worker as the other two sectors combined.

Table 2.10

ANNUAL NET FARMING INCOME PER ACRE PER FARM HOUSEHOLD,
BY FARM SIZE AND PROPORTION OF ACRES IN COFFEE, 1987
(in KSh.)

	<u>Small Farms</u>	<u>Large Farms</u>	<u>All Farms</u>
Low Proportion of Acres in Coffee	1,290.0	1,876.0	1,620.3
High Proportion of Acres in Coffee	3,369.7	6,796.5	4,838.3
All Farms	2,478.4	4,023.1	3,243.8

Explanation: Low and high proportions of acres in coffee refer to farms with below and above average ratios of coffee acres to non-coffee acres. Small and large farms refer to farms below and above median farm size (about 6 acres). The figures exclude acres and earnings associated with bananas.

Table 2.11

EMPLOYEES AND CAPITAL FOR BUSINESSES WITH
FIXED PLACES OF BUSINESS IN KUTUS, 1987

<u>Sector</u>	<u>Avg. No. Employees *</u>		<u>Median Wage ** Rate (KSh.)</u>	<u>Avg. Fixed Capital</u>		<u>Median Profit ** Per Worker (KSh.)</u>
	<u>Full Time</u>	<u>Part Time</u>		<u>Startup Capital (KSh.)</u>	<u>Cap/Labor Ratio (KSh.)</u>	
Industry	1.24	1.64	542	50,891	10,084	409
Commerce	1.29	0.57	480	30,077	35,794	1,792
Services	1.25	0.79	450	16,725	21,438	588
Total	1.26	0.92		32,274	24,944	

* Paid employees only; does not include owner.

** Monthly

On the whole, businesses in Kutus are quite small, most being a part of what is often referred to as the informal sector. Table 2.12 shows percentage distribution of Kutus businesses by employee size class. This table covers all businesses in Kutus--those operating out of fixed places of business in the northern and southern commercial areas, food and nonfood traders in the open air market in the old northern commercial area, and transportation businesses. When all businesses are included, 45 percent provide employment only for the owner, and 65 percent provide employment for the owner and one other worker either full or part time. Only 8 percent employ more than 5 full or part time workers.

As might be expected, all businesses in Kutus with over three employees operate out of fixed places of business. Nearly 70 percent of traders in the open air market employ only the owner, and another 14 percent employ only one worker, often part time. Proportions of open air market businesses decline steadily as employee size classes rise, reaching zero percent at four employees. Enterprises in fixed places of business, however, after an initial steady decline in proportions through 0-2 employee size classes, show variable patterns thereafter; and all three sectors have significant proportions of businesses in the over-5-worker size class. Commercial enterprises in fixed places of business account by far for the largest proportion of businesses and have both the largest proportion of enterprises in the 0-2 worker range compared with other sectors and the largest share of enterprises with over 5 workers from among the total of businesses.

Table 2.13 shows percentage distribution of all Kutus businesses by year of start-up. Half of all businesses were started in the past five years, and of these, half operate out of fixed places of business. Since the start of the decade, 62 percent of all businesses, 80 percent of open air market businesses, and over 55 percent of enterprises in fixed places of businesses were launched. Over 80 percent of all current businesses were started since 1970, and no present transportation businesses were known in Kutus before that time. The evidence is not conclusive, since data on business failures and growth of individual businesses are unavailable, but the figures suggest a local economy that has had a measure of strength for some time and has become especially spirited, with some acceleration in growth of numbers of both small and large businesses, in recent years.

What the casual observer passing through Kutus on the Sagana-Embu road will not notice is the new commercial area located near the main residential district of Kutus one kilometer down an unpaved road to the south. Of the 377 Kutus enterprises operating out of fixed places of business, 92 are located in this area or in the nearby residential area. The northern and southern commercial areas have roughly equal proportions of their respective totals of operating enterprises in the industrial, commercial, and services sectors. Industrial enterprises in the newer southern area tend to be larger in terms of number of employees, probably owing to a shortage of expansion space in the older area. Commercial activities, however, tend to be smaller in the southern area--kiosks rather than shops--though a number of larger shops stand unopened. There is also a well-equipped, new, open air market in the new commercial area, which has remained unutilized for some time owing to lack of utilities. The

Table 2.12

PERCENTAGE DISTRIBUTION OF KUTUS BUSINESSES
BY AVERAGE NUMBER OF EMPLOYEES, 1987

Businesses	Average Number of Employees							Total
	0	1	2	3	4	5	>5	
Fixed Places of Business (FPB):								
Industry								
% of total	3.5	2.5	2.5	4.5	0.5	0.5	2.5	16.5
% of industry	21.0	15.0	15.0	27.0	3.0	3.0	15.0	100.0
Commerce								
% of total	9.5	6.5	5.0	1.5	0.5	0.0	3.0	26.0
% of commerce	36.5	25.0	19.0	6.0	2.0	0.0	11.5	100.0
Services								
% of total	4.5	3.5	1.5	2.0	0.5	0.0	2.5	14.5
% of services	31.0	24.0	10.0	13.0	3.0	0.0	17.0	100.0
All FPB								
% of total	17.5	12.5	9.0	8.0	1.5	0.5	8.0	57.0
% of FPB	30.5	22.0	16.0	14.0	2.5	1.0	14.0	100.0
Open Air Market (OAM)								
% of total	24.5	5.0	4.5	1.5	0.0	0.0	0.0	35.5
% of OAM	69.0	14.0	12.5	4.0	0.0	0.0	0.0	100.0
Transportation								
% of total	3.0	3.0	4.0	0.0	0.0	0.0	0.0	10.0
% of transp	30.0	30.0	40.0	0.0	0.0	0.0	0.0	100.0
Total All	45.0	20.5	17.5	9.5	1.5	0.5	8.0	100.0

Notes: Includes full and part time employees, but not owners.
 Figures have been rounded to nearest 0.5; totals do not
 actually add to 100 because of rounding.

Table 2.13

PERCENTAGE DISTRIBUTION OF KUTUS BUSINESS STARTUPS
BY YEAR OF STARTUP, 1987

Year Started	Businesses in Fixed Place of Business		Businesses in Open Air Market		Transpor- tation		Total
	% of Total	% of FPB	% of Total	% of OAM	% of Total	% of Trans	
1987	8.5	15.5	6.0	18.0	0.5	9.0	15.0
1986	8.5	15.5	6.5	20.0	1.5	8.0	16.5
1985	2.0	4.0	2.0	6.5	0.0	0.0	4.0
1984	3.5	6.5	3.0	9.0	1.5	8.0	8.0
1983	3.0	5.0	3.5	11.0	0.5	9.0	7.0
Total 83-87	25.5	46.5	21.0	64.5	4.0	54.0	50.5
1982	3.5	6.5	0.0	0.0	0.5	9.0	4.0
1981	0.0	0.0	1.5	4.5	0.5	9.0	2.0
1980	1.5	2.5	3.5	11.0	0.5	9.0	5.5
Total 80-87	30.5	55.5	26.0	80.0	5.5	81.0	62.0
70-79	12.0	22.0	5.0	15.5	1.5	18.0	13.5
<1970	13.0	23.0	1.5	4.5	0.0	0.0	14.5
Total		100.0		100.0		100.0	100.0

Note: Figures have been rounded to nearest 0.5; totals do not actually add to 100 because of rounding.

observer who wanders through the new commercial area sees tidiness and solid modern structures, but a lightness of activity at an unhurried pace.

The older northern commercial area offers an instructive contrast. With the exception of concrete structures bordering the main road, the old market area is somewhat ramshackle, untidy, and chaotic, but teems with economic activity conducted mostly in the open air. It is conveniently located for purposes of most enterprises, especially commercial businesses that trade heavily with farm households in the study area, and is served with basic utilities. It is compact, and the visitor can conduct many different types of business conveniently. Thus, locational suitability, basic utilities, low transaction costs for both buyers and sellers, economies of agglomeration, and perhaps the greater social opportunities all this in turn creates, result in a bustling commercial center.

The future of the new commercial area is uncertain. For the moment it is occupied primarily by businesses that serve the nearby residential area in particular or for which space is more important than traffic, such as manufacturing enterprises, and that do not need or can supply their own utilities. Once provided with utilities the new commercial area allows for modern business growth that simply cannot be accommodated in the older commercial area, though some expansion is still possible there. Paving the road between the two areas is likely to add to the viability of the new area without detracting from that of the old.

If the new commercial area is properly served with utilities and convenient access, and if certain improvements are made in the old commercial area, Kutus will have the physical conditions for efficient long-term economic expansion. If the current rate of economic expansion in Kutus continues unabated, both the old and new commercial areas are likely to be thriving by the turn of the century.

III. COFFEE, MAIZE, AND TOMATO MARKETING AND INPUT SUPPLY IN THE KUTUS REGION

This chapter discusses the marketing and input supply systems for coffee, maize, and tomatoes, the designated key commodities for this study. Coffee was selected because it is the dominant cash crop in the area, grown by nearly 90 percent of farmers. Maize was chosen because of its importance as a staple, grown by all farmers in the area, and as a commodity for local and domestic markets. While beans are the third most widespread, this crop has marketing and input supply characteristics very similar to maize, is commercialized to precisely the same degree, and is often intercropped with maize; it was felt that much of what was learned about marketing and input supply from studying maize would be applicable to beans as well. Tomatoes, therefore, were selected as the third key commodity. Tomatoes are grown by about 30 percent of study area farmers; the crop is 79 percent commercialized and provides the fourth highest level of cash income among all crops to farmers in the study area. Tomatoes are representative of a class of commodities in the region with similar potential and unregulated marketing channels.

A. Coffee

Eighty-seven percent of farm households in the region grow coffee. The average amount of land under coffee, for those farm families that grow the crop, is 1.3 acres. The average yield of coffee growers is 2,484 kilograms and the average gross return on that production is KSh. 19,402 annually. Revenue from coffee accounts for 81 percent of total crop revenue in the region.

Coffee production in the Kutus Region, as everywhere in Kenya, is strongly tied to the Kenya Planter's Cooperative Union. At the head of the coffee cooperative structure in the district is the Kirinyaga District Coffee Cooperative Union, located in Kerugoya, ten kilometers from Kutus. Its responsibilities include ordering and supplying farm inputs, providing technical and educational services to coffee farmers, and coordinating and delivering financial services to the member cooperative societies of the union.

Under the union are the coffee cooperative societies. Four societies operate in the Kutus Region: Baragwi, Inoi, Kabare, and Mutira. In addition, there is another "Society," Urumandi, that is not a member of the cooperative union. Societies are physically housed at one of their member factories. Societies distribute inputs to factories and make deliveries of coffee to the depot of the Coffee Board of Kenya (Board) in Sagana, 20 kilometers from Kutus.

Each society represents a number of factories. The five societies operating in Kutus Region were in charge of 35 factories at the time of the survey. Baragwi and Inoi each oversee ten factories, Kabare nine, and Mutira five. Urumandi Society, located in the marginal coffee area in the lower and more gently sloping, southeastern portion of the study area, has only one factory. Factories store inputs for farmer purchase, receive coffee deliveries from farmers and carry out initial processing, and distribute coffee payments to farmers.

At the bottom of the cooperative hierarchy is the coffee farmer. A farmer is a member of one factory, usually the one that is closest to him. Farmers buy inputs at, deliver coffee to, and collect coffee payments from the factory at which they are members.

All coffee producers in the Kutus Region, with the exception of Kirinyaga Technical Institute, market their coffee through the coffee cooperative system. Farmers may be allowed to sell their coffee directly to the board if they have at least ten acres of land under coffee and have their own processing operation. All farm households that produce coffee in the Kutus Region have less than the required amount of land under coffee.

MARKETING

Coffee farmers deliver their product to the factory for initial processing. Most farmers live within a very short distance of the factory to which they belong, the average being 3.1 kilometers. Farmers belonging to Urumandi Society have somewhat less access to factories as the average distance they travel is 6 kilometers. Coffee farmers usually transport their product by foot, bicycle, or cart. Farmers also sometimes use public service vehicles to deliver coffee to factories: farmer cash outlays for transporting coffee to the factory average KSh. 50 per year. Poor roads increase the cost of coffee delivery for the farmer although most coffee growers do make deliveries in all types of weather.

During coffee harvesting season coffee farmers pick their coffee in the morning and deliver to the factory in the afternoon. The quantity delivered on any given day varies and is a function of the labor available for picking and the means available for transporting, but ranges from less than one to several ninety-kilogram bags. The average amount traded annually is just over thirty bags per farm household.

Farmers are not paid upon delivery of coffee. Rather, they are paid at several, usually five, times during the course of the year. Farmers from Kabare Society were paid in May, June, September, November, and February for the 1985-86 coffee year, for example. Payments to farmers vary across factories as a function of quality of coffee and operating expenses. The average payment to farmers in our sample was KSh 7.80 per kilogram. Farmers receive on the order of 85 percent and higher of the price that the union receives.

Farmers use revenues from coffee for a variety of production and consumption expenditures. Some expenditure is tied directly to the coffee cooperative through the credit services it offers. The society extends credit to the farmer based on production levels over the previous three years. Credit is available for purchase of inputs supplied by the cooperative and other production expenditures, as well as for large consumer items such as school fees, hospital expenses, and home improvements.

At the factory the coffee cherry is sorted, pulped, dried, bagged, and stored. The society arranges for transport of the partially processed coffee parchment after a sufficient quantity has accumulated at its member factories.

Societies transport coffee to the board depot in Sagana from one to several times a month during the picking season. Societies have their own lorries for the transportation of coffee, and when enough coffee has accumulated at the factory level a movement permit is obtained from the district offices in Kerugoya and coffee is delivered. Poor road conditions sometimes hamper the ability of societies to collect and deliver coffee. Occasionally this can result in loss of sales. Staff at the Kabare Society, serving the high potential steep-sloped area in the north of the study region, reported that last year, for example, hundreds of kilograms of coffee parchment spoiled during a period when collection was thwarted due to impassable roads during the rains.

Coffee revenues make up the bulk of society revenues, perhaps 55 to 60 percent. Societies receive on the order of 10 percent of the gross revenues from coffee.

Societies use their coffee revenue for a variety of operational purposes. Approximately one-third of their expenditures are for labor costs. Since laborers are almost exclusively from the study area, and workers spend the bulk, over 85 percent, of their earnings regionally, income multiplication from the societies' labor expenditure is quite high.

The union deposits coffee revenues into an account set up for each society. Sometimes delayed payments hinder society operations. Personnel at Baragwi Society, for example, reported that they were forced to cut back on credit delivery to farmers as a result of cash flow problems caused by payment delays.

INPUT SUPPLY

The major inputs to coffee production include coffee seedlings, fertilizers, pesticides, tools, equipment, and labor. Most of these inputs are purchased inside the region. Seventy-nine per cent of the coffee seedlings, 94 percent of the coffee fertilizer, and 81 percent of the coffee pesticides were purchased in the region. Sixty-nine percent of the value of equipment, excluding vehicles, was purchased in the region. Approximately 63 percent of the paid full time labor and 97 percent of the paid part time labor comes from the Kutus Region. Table 3.1 shows average expenditures on all coffee inputs and the proportion purchased locally.

Farmers have access to current and capital inputs from the coffee cooperative and private traders in the study area. The majority of current inputs are purchased from the cooperative. For example, 94 percent of fertilizer purchased in the region is purchased from the cooperative and 96 percent of locally purchased pesticides come from the cooperative. On the other hand, small capital goods such as pangas, jembes, water tanks, and wheelbarrows are more likely to be purchased from private traders. Farmers purchase labor inputs from both farm and town households in the region.

The farmer obtains inputs through the coffee cooperative from the factory, to which they are distributed by the society to which the factory belongs. The society obtains them from the union, which orders directly from manufacturers

Table 3.1

AVERAGE ANNUAL COFFEE GROWER INPUT EXPENDITURE (KSh)

<u>Category</u>	<u>Avg. Exp.</u>	<u>Amt. in Region</u>	<u>% Purch. in Region</u>
Seedlings	109	79.0	86
Fertilizer	523	94.3	493
Herbicide	58	87.9	51
Pesticide	466	80.9	377
Storage	0	0.0	0
Sacks/Ropes	79	87.8	69
Animal Rent	216	100.0	216
Fuel	34	100.0	34
Machine Rent	30	100.0	30
Repairs	210	73.8	155
F.T. Labor	530	62.6	332
P.T. Labor	442	97.0	429
Tools	119	100.0	119
Equipment	682	69.0	470
Input Trans.	34	100.0	34
Mkt. Trans.	44	100.0	44
Other	9	100.0	9
	<hr/>	<hr/>	<hr/>
	3,583	82.3	2,947
Revenue	19,402		

or distributors. Private traders in Kutus are supplied by outside distributors and sell to other traders in the region as well as directly to farmers.

The union places orders for inputs with its domestic suppliers twice a year, before the long rains and before the short rains. Delivery to the union warehouse in Sagana can take up to two months or longer. The union has recently started to import some current inputs directly, notably fertilizers, and that process is carried out just once annually and is set in motion with the beginning of the government fiscal year in July. Delivery can take as long as six or seven months.

Delays in union tendering, ordering, and purchasing process for domestically supplied farm inputs causes problems in dependability of supply of those goods to the farmer. As noted above, the entire input ordering procedure routinely takes two months or longer. Since the process is not initiated until a short time before the rains begin, the result is that important inputs may not be available to farmers at critical points in the farming cycle. It seems that the structure imposed by the union fiscal year and budget cycle, which begins

in October, may be a key factor in causing delays, at least before the short rains.

Delays also exist in the direct importation of fertilizers. From the perspective of the union, the process, which involves the Ministries of Agriculture and Commerce and the Central Bank as well as tenderers and transporters, is a rather inefficient one. This year, only the second that the union has been involved in importing fertilizer, for example, it was hoped that fertilizers ordered for the short rains would finally arrive in time for the beginning of the long rains.

These delays, whether on the domestic or the international front, force the cooperative union to purchase inputs where and when they can as stop-gap measures. The resultant stock is more limited in quantity and higher priced and farmers suffer accordingly.

Once the inputs have arrived in Sagana it is the responsibility of the society to pick up its allotment. This they do immediately upon the stock's arrival and on an as needed basis thereafter. The price the society pays is the cost to the union plus a three percent markup plus the cost of transportation to Sagana.

The society distributes its stock of inputs to its member factories for resale to farmers. Poor rural roads can inhibit the steady supply of inputs to farmers. Cooperative personnel at the society level note that even if they can get timely access to inputs farmers may not always be able to. During the rains it sometimes becomes impossible to distribute inputs to factories due to impassable roads. During the time of the survey, for example, as farmers were complaining of the lack of fertilizers, one could see bags of fertilizers piled high at the societies awaiting distribution.

Farmers collect their inputs from the factories on an as needed basis. This usually translates into more or less frequent purchases of small quantities, a bag of fertilizer or a can of pesticide per trip, for example. Farmers make very little cash outlay for transportation for the collection of inputs, the average being only KSh. 37 per year.

Farmers are charged a two percent markup by the society plus the cost of transportation to the factory, or the controlled price in the case of fertilizers, whichever is less.

Forty-five percent of the farmers in the survey complained about inadequate fertilizer supply in the Kutus Region. Lack of access to fertilizers reduces coffee productivity. Coffee farmers who use fertilizer had an average productivity level of KSh. 14,071 per acre while farmers who used no fertilizer averaged only KSh. 5,063 per acre.

Private traders in Kutus have supply sources in various places outside the study area, although most seem to be located in Nairobi. They make orders on a biweekly or monthly basis, and in some cases the traders collect the inputs from the suppliers themselves while in others the inputs are delivered. Turn around time is usually a week to ten days. No trader in Kutus imports capital

or current goods directly from overseas. Private stockists sell goods directly to farmers and also to other traders located in the rural shopping centers for eventual resale to farmers.

Stockist prices to farmers are in most cases higher than the society prices for comparable goods, as they buy in smaller quantities from distributors and take a profit of perhaps twenty percent or higher. In general, private traders do not offer as wide a range of coffee inputs to farmers as the cooperative does, although the flow of inputs that they do provide seems more reliable. For example, private traders as a rule do not stock fertilizers because the controlled price undercuts their margin to an extent that makes it unprofitable. Their supply of some chemicals and hardwares on the other hand is known to be more dependable, and farmers more frequently buy such goods from private traders, both inside and outside the region.

Although low prices are of course valued by farmers, if the resultant supply is inadequate the point becomes moot. A relaxation of prices may at least open up other supply channels by providing incentives for private stockists to carry that input.

Town input suppliers use their revenues to purchase inputs to their production. Table 3.2 shows average expenditure on inputs by a sample of Kutus input suppliers. The major expenditure item is, not surprisingly, commodities for resale, incorporating about 88 percent of the total costs of operation. Only 0.4 percent of commodities for resale are purchased in the region. Other expenditure items such as labor and maintenance, though a much smaller percent of the total costs have much higher regional input. About 80 percent of total labor and 75 percent of maintenance services is supplied from the Kutus Region. Input suppliers make only about seven percent of their total expenditure in the region. Most of the profits of input suppliers, however accrue to people who reside in the region, as over 90 percent of input supplying businesses are owned by people from the Kutus area.

Most labor input to farm production comes from the farm household. On average, farmers "hire" 4.68 family members to work on their own farms. Farmers also employ full and part time wage labor. Farmers spend an average of KSh. 1,371 on labor for farm operations yearly, of which approximately 60 percent is used for coffee production.

Both farm and town households in the region supply wage labor to farm production. Five percent of farm households and 15 percent of town households in the region earn some money during the course of the year working on farms. About one quarter of farm households interviewed complain of a lack of sufficient labor supply for farm operations. This is somewhat striking given that approximately 15 percent of working age individuals in both the farm and town household samples are looking for work. A possible explanation is that labor demand is highly seasonal and simply outstrips supply at certain key times during the year, for example during planting, weeding, and harvesting. In any case, insufficient labor may limit production of coffee or at least divert resources away from other, perhaps more efficient uses.

B. Maize

Maize is the major subsistence crop in the Kutus Region. One hundred percent of the farmers in the area grow maize. The average amount of land under maize is 3.19 acres and the average yield of maize growers is 1,742 kilograms.

Seventy-five percent of maize farmers market at least some maize and the average amount sold is 945 kilograms. Overall, about 41 percent of the maize grown is marketed. The rest goes to home consumption, seeds, gifts, or is exchanged for other goods and services. The average maize farmer who markets at least some of the crop earns KSh. 1,846 per year doing so. Maize revenue is seven percent of the total crop revenue in the study area, and the imputed value of production of maize is 13.5 percent of the total imputed value.

Maize is a controlled commodity, and can only be sold locally for home consumption or through the National Cereals and Produce Board (NCPB), with district depot in Sagana.

MARKETING

Farmers market their maize through two main channels in the region: traders in the open air market and store traders. Open air market traders sell to final consumers, and store traders sell to the National Cereals and Produce Board (NCPB) in Sagana. Open air market traders also sometimes sell to store traders. Farmers may also sell directly to consumers or to the NCPB, although these channels are of lesser importance.

Farmers transport their maize to open air traders in the market, traveling an average distance of 5.2 kilometers to the market and spending an average of 34 KSh. per year on transporting the crop. Farmers sometimes have difficulty getting their crop to market due to poor roads. Forty-five percent of farmers in the survey complained of difficulty in getting their goods to market. Impassable roads was the single biggest cause of the difficulty.

Farmers who sell maize to open air market traders do so in relatively small quantities on a fairly regular basis. Prices fluctuate seasonally: during the course of the survey, prices in the Kutus market ranged from KSh. 1.80 to KSh. 6 per two-kilogram tin. All transactions between trader and farmer are in cash. Farmers in the Kutus Region earn an average of KSh. 1,414 on maize sales annually.

Farmers use their maize revenues for the purchase of inexpensive everyday items in general. Maize is usually stored after harvest and sold off in small quantities as the need for household items or farm inputs arises.

Open air market traders, in turn, sell to customers in small quantities for home consumption. Most customers are from the study area, although some come in from outside to buy. Maize traders can be found in the Kutus market seven days a week. Open air market traders can trade as much as 55,000 kilograms of maize and other grains per year. Prices to the consumer vary between KSh. 2 and KSh. 7 per two kilogram tin. Trader margins vary, but hover around one shilling per tin.

Table 3.2

SELECTED KUTUS RETAIL INPUT SUPPLIER'S MONTHLY EXPENDITURES (KSh.)

<u>Category</u>	<u>Avg. Exp.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Permits	192	0	0
Maintenance	2,381	74	1,762
Fuel	2,000	100	2,000
Transport	393	100	393
Water	79	100	79
Electricity	179	0	0
Raw Materials	32	75	24
Commodities	86,643	0.4	347
Rent	374	97	363
F.T. Labor	2,964	78	2,312
P.T. Labor	51	100	51
Equipment	3,296	0	0
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Total	98,584	7.4	7,331
Total Sales	146,029		

Open air market traders will sell to store traders if stocks accumulate to a sufficient level and consumer demand is low. This they are encouraged to do by store traders, who add a bit to the price that they normally give to farmers. Open air market traders would prefer to sell all their stock directly to consumers, which provides them with a rather higher price margin.

Open air market traders make minimal expenditures on inputs to their trading. What they do buy, however, is bought almost exclusively in the study area. Table 3.3 shows the average open air market maize trader expenditure pattern. The biggest expense is on goods bought for resale, and most buy maize from study area farmers who bring the commodity to the market. Traders have few other intermediate good purchases. Profit is the only value added item of any significance, and it is largely retained by people in the study region. The vast majority of open air market maize traders interviewed in our sample come from the Kutus area.

Farmers sell to store traders in larger amounts and less frequently. Most store traders insist on buying larger quantities than is normal in the open air market. Farmers usually bring maize to the store, though occasionally store traders send agents out to farms for collection. Farmers receive a better price from store traders than they do in the open air market. At the time of the survey the price to farmers from store traders was about Ksh. 200 per 90 kilogram bag.

Store traders in turn sell to the NCPB in Sagana. When stocks have grown to a sufficient level traders get the required movement permit from the district offices in Kerugoya and transport the maize in hired lorries. Transport costs to store traders average around Ksh. 8,400 per year.

The price at Sagana is fixed at KSh. 227.65 per 90 kilogram bag. Store traders are not paid immediately for their deliveries and sometimes wait up to six months for cash payment. These delays in payments to store traders seem to have a deleterious impact on farmer revenues from maize. When payments are delayed to store traders cash flow problems result, and store traders are constrained from making purchases of maize at least temporarily. This means that farmers have no option but to sell to open air market traders from whom they receive a lower price.

Price and movement controls also serve as a disincentive to production and marketing of maize. Much has been written on the effect of these controls on the production and marketing of maize in Kenya. A consensus appears to be building within the government that some measure of reform or relaxation of the controls needs to take place. Suffice it to say here that the controls serve to narrow the market and probably negatively affect the price that the farmer receives for maize.

Store traders require more purchased inputs to their operations than do open air traders, including expenditure on transportation, maintenance, labor, and capital services. Table 3.4 shows average expenditures for a sample of store traders. The vast majority of these inputs, with the exception of capital services, are purchased in the Kutus area. In total, 99 percent of traders' input expenditure is made in the study area. All store traders in our sample are from the region, so profits accrue to local residents.

INPUT SUPPLY

The major inputs to maize production include maize seed, fertilizers, pesticides, tools, equipment, and labor. As with coffee, the majority of inputs is purchased inside the region. Seventy-one percent of the seed, 90 percent of the fertilizer, and 87 percent of the pesticides are purchased in the region. Average expenditure on maize inputs and the study area proportions are shown in Table 3.5. Farmers purchase slightly less of their maize inputs in the region than they do for coffee. Maize is often intercropped with beans in the Kutus Region and so expenditure levels for some items, for example storage costs, may include a portion actually spent on beans. The effect is believed not to be severe, however, and the table probably reflects input expenditures for producing maize reasonably well.

As with coffee, maize inputs are obtained through both the coffee cooperative and private traders. Purchase of inputs from the cooperative is limited restricted to coffee growing members. Most inputs purchased inside the study area are purchased through the cooperative system. Ninety-nine percent of the fertilizer and 80 percent of the chemicals purchased in the region are obtained through the union.

Table 3.3

SELECTED KUTUS OPEN AIR MAIZE TRADER MONTHLY EXPENDITURE (KSh.)

<u>Category</u>	<u>Avg. Exp.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Permits/Lic.	21	0	0
Maintenance	0	0	0
Fuel	0	0	0
Transport	115	100	115
Water	0	0	0
Electricity	0	0	0
Raw Materials	0	0	0
Commodities	5,275	100	5,275
Rent	50	0	0
F.T. Labor	0	0	0
P.T. Labor	0	0	0
Equipment	2	0	0
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Total	5,463	99	5,390
Sales	6,230		

Table 3.4

SELECTED KUTUS STORE MAIZE TRADER MONTHLY EXPENDITURE (KSh.)

<u>Category</u>	<u>Avg. Exp.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Permits/Lic.	72	0	0
Maintenance	26	100	26
Fuel	0	0	0
Transport	700	100	700
Water	50	100	50
Electricity	9	0	0
Raw Materials	0	0	0
Commodities	18,542	100	18,542
Rent	0	0	0
F.T. Labor	0	0	0
P.T. Labor	250	100	250
Equipment	226	61	138
	<hr/>	<hr/>	<hr/>
Total	19,875	99	19,706
Sales	26,625		

Table 3.5

AVERAGE ANNUAL MAIZE GROWER INPUT EXPENDITURES (KSh.)

<u>Category</u>	<u>Avg. Amt.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Seeds	161	70.8	114
Fertilizer	169	95.9	162
Herbicide	10	90.0	9
Pesticide	8	87.5	7
Storage	30	86.7	26
Sacks/Ropes	14	85.7	12
Animal Rent	38	100.0	38
Fuel	6	100.0	6
Machine Rent	5	100.0	5
Repairs	37	73.0	27
F.T. Labor	252	62.7	158
P.T. Labor	194	96.9	188
Tools	21	100.0	21
Equipment	121	69.4	84
Input Transport	6	100.0	6
Mkt. Transport	26	100.0	26
Other	2	100.0	2
Total	1,100	81.0	891
Revenue	1,414		

Maize input supply via the coffee cooperative and private traders is similar to that described for coffee.

C. Tomatoes

Tomatoes are grown both for home consumption and for sale as a cash crop. Thirty-five percent of the farmers in the region grow tomatoes and the average land under tomatoes is .37 acres. Of those that grow the crop, 41 percent sell it for income. Among those that market the crop the average volume sold is 1,838 kilograms and the average earnings from sales is KSh. 4,200 per year. At present tomato revenue is only three percent of total crop revenue in the area, although potential may exist for increasing its share significantly.

Tomatoes are grown both by rain-fed means and under irrigation in the Kutus area. Most production of tomatoes is rain-fed. Under rain-fed conditions tomatoes can be harvested two times a year, at the end of the short and long rains. Under irrigation, tomatoes can be harvested up to four times a year.

MARKETING

Tomatoes grown in the region are marketed with two types of traders in the Kutus open air market: those who sell directly to consumers, and those who market the produce outside the region. Tomatoes that leave the region are most often destined for the fresh produce market in Nairobi, although Embu is also a frequent destination. Quantities of tomatoes grown outside the study area are also brought to the Kutus open air market for bulking and transport to final markets outside the region.

During harvest farmers pick ripe tomatoes and carry them to the market for sale on the same day. The average amount spent on transporting tomatoes to market is KSh. 132 annually. Farmers sell in relatively small quantities to open air traders and relatively frequently during harvest periods.

At the time of the survey traders in the Kutus open air market were paying farmers KSh. 2.50 per kilogram for tomatoes, and the price ranges between KSh. .50 and KSh. 3.50 during the year.

The latter price is received by farmers during the off-season for tomatoes that are grown under irrigation. Irrigation technologies in the study region are simple, involving the use of watering containers or in some cases water pumps. Easy access to a river or stream is a necessity for pump technology. Rivers and streams are especially plentiful in the northeast section of the study area.

Open air traders sell to area consumers by at between KSh. .60 and KSh. 2.50 per four medium-sized tomatoes. At the time of the survey the price was one shilling per four tomatoes.

Open air market traders run very small operations and have little in the way of input expenditure. Average expenditure for a sample of tomato traders is shown in Table 3.6. What little expenditure there is, is made in the study region. All open air market traders interviewed in the sample were from the Kutus Region; thus, all profits accrue to individuals in the area and the majority of net income expenditure is also made in the area.

Farmers sell in relatively larger quantities and relatively less frequently to long distance traders, usually only on market days. Farmers receive better prices from long distance traders. At the time of the survey the price paid by long distance traders was KSh. 3.50 per kilogram. Prices offered by long distance traders vary seasonally from Ksh. 1.00 to Ksh. 5.50.

Long distance tomato traders are generally not from the Kutus Region. They, or their employees, travel to Kutus, usually on the morning of market day, to bulk tomatoes for transport out of the area the same day. Some own their own transport, some hire transporters. Hired transport is from outside the region. Long distance trade of tomatoes is done in large quantities, that is, by full lorries.

Long distance traders were selling in the Nairobi market at KSh. 300 to KSh. 350 per 60 kilogram box of tomatoes at the time of the survey.

Table 3.6

SELECTED KUTUS OPEN AIR TOMATO TRADER MONTHLY EXPENDITURE (KSh.)

<u>Category</u>	<u>Avg. Exp.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Permits/Lic.	16	0	0
Maintenance	0	0	0
Fuel	0	0	0
Transport	0	0	0
Water	0	0	0
Electricity	0	0	0
Raw Materials	0	0	0
Commodities	600	100	600
Rent	0	0	0
F.T. Labor	0	0	0
P.F. Labor	70	100	70
Equipment	0	0	0
<hr/>	<hr/>	<hr/>	<hr/>
Total	686	98	670
Sales	1,000		

Long distance traders have more significant input expenses than their open air market counterparts, though not as much of it is made in the study area. Table 3.7 shows input expenditure for long distance traders. Commodities purchased for resale and labor are from the region while transport, maintenance, and capital services are from outside. Profits also leave the study region, as long distance traders live outside the area.

INPUT SUPPLY

Basic inputs to tomato production are similar to those for coffee and maize. As with coffee and maize, most inputs to production are purchased inside the region. In fact, a larger proportion of total inputs for tomatoes is purchased inside the region than for either coffee or maize. Ninety-eight percent of the seeds and seedlings, 85 percent of the fertilizer, and 84 percent of the pesticides are purchased locally. Average input expenditure for tomatoes is shown in Table 3.8.

In the case of tomatoes, more of the locally purchased inputs are supplied by private traders. One hundred percent of the seeds and seedlings and 83 percent of the pesticides are purchased from private traders. Fourteen percent of the fertilizer is purchased from private traders.

The systems of cooperative and private trader input supply are similar to those described earlier.

Table 3.7

SELECTED KUTUS LONG DISTANCE TOMATO TRADER MONTHLY EXPENDITURES (KSh.)

<u>Category</u>	<u>Avg. Exp.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Permits	48	0	0
Maintenance	32	0	0
Fuel	0	0	0
Transport	2,840	0	0
Water	0	0	0
Electricity	0	0	0
Raw Material	0	0	0
Commodities	5,500	100	5,500
Rent	0	0	0
F.T. Labor	0	0	0
P.T. Labor	560	100	560
Equipment	5	0	0
Total	8,985	67	6,060
Sales	11,000		

D. Conclusions

On the whole, agriculture in the study region, as reflected in coffee, maize, and tomatoes, is prospering. However, the foregoing suggests possibilities for improving levels of production, producer prices, input costs, value added, and income multiplication associated with agricultural marketing and input supply in the study area. These are summarized below.

MARKETING

Productivity in coffee production is limited by payment delays from the union to the societies. Delays in payments accruing to societies from coffee sales force cutbacks in credit extension upon which many farmers depend for purchase of production inputs. The fact that the productivity level of farmers who do not use fertilizer is about one-third the level of those who do use fertilizer suggests that eliminating payment delays would have a material beneficial impact on coffee production.

The price farmers receive for maize is depressed by delays in payment to maize store traders from NCPB. Payment delays inhibit store traders from purchasing maize from farmers and thereby force farmers to sell at lower prices to open air market traders. The price a farmer receives from store traders is roughly 10 percent higher than from open air market traders. Introduction of procedures resulting in more timely payments to traders would increase competition among buyers and likely result in improved producer prices.

Table 3.8

AVERAGE ANNUAL TOMATO GROWER INPUT EXPENDITURES (KSh.)

<u>Category</u>	<u>Avg. Amt.</u>	<u>% Purch In</u>	<u>Amt. In</u>
Seeds	17	100.0	17
Fertilizer	37	83.8	31
Herbicide	6	100.0	6
Pesticide	159	84.3	134
Storage	0	0.0	0
Sacks/Ropes	9	100.0	9
Animal Rent	23	100.0	23
Fuel	3	100.0	3
Machine Rent	3	100.0	3
Repairs	23	74.0	17
F.T. Labor	0	0.0	0
P.T. Labor	0	0.0	0
Tools	11	100.0	11
Equipment	71	67.6	48
Input Transport	3	100.0	3
Mkt. Transport	54	100.0	54
Other	0	0.0	0
Total	418	85.7	359
Revenue	1,617		

The producer price for maize is also depressed by controls placed on marketing that commodity. Relaxation of price and movement controls would likely draw additional traders into the market and broaden marketing options for farmers, yielding higher producer prices that in turn would stimulate expanded production. To the extent that more maize trading took place in Kutus, higher levels of income multiplication in Kutus would also result. The same applies to beans.

Farmers unable to grow tomatoes under irrigation have half the number of harvests of those who irrigate. Moreover, off-season prices for tomatoes are as much as five to seven times higher than regular season prices. Increased use of small-scale irrigation technologies in tomato growing areas near water, particularly in the eastern part of the study area, would substantially increase returns to tomato production.

Roads connecting coffee societies and factories that become impassable in wet weather interfere with collection of coffee for delivery to Sagana. This has the effect of increasing costs of society operations, which narrows the margin farmers receive for their product. It also occasionally effectively lowers productivity owing to spoilage. The problem is most severe in the highest

potential coffee areas in the northern part of the study region, where slopes are steepest and rainfall is heaviest.

Poor farm to market roads increase costs of transporting both maize and tomatoes and thus decrease farmer returns. Of the 45 percent of surveyed farmers who complained of difficulty in getting their goods to market in Kutus the vast majority listed impassable roads as the major reason. The problem is more severe for tomatoes than maize as farmers make higher cash outlays for transport of tomatoes, and tomatoes are more perishable. Thus, priorities for addressing this problem should focus on the eastern portion of the study area.

A high differential prevails between the price paid tomato farmers in the Kutus market by long distance traders and the price those traders receive in Nairobi. The margin amounts to roughly 42-67 percent, accounted for in part by high expenditures on transportation costs and labor outside the study area. Measures that would capture for study area households more of the value added in the Nairobi price would increase returns to farmers and facilitate higher levels of capital investment that would result in expanded production. This would also increase income multiplication in the study area, to the benefit of both farm and town households.

INPUT SUPPLY

The coffee union's tendering and ordering process results in shortages and delays in the supply of important inputs to farmers, which reduces productivity and raises input costs. In the worst cases, inputs are completely unavailable to farmers for a period of time. Sometimes when the ordered stock of inputs is delayed the union is able to purchase stocks locally, albeit in smaller quantities and at higher prices that are passed on to farmers. Since supply of most inputs for all crops in the study area comes through the union, this matter affects all commodities. A more timely and efficient tendering and ordering process would improve productivity and reduce input costs to farmers.

The import licensing process also causes shortages and delays in the supply of inputs to farmers. Relaxed regulations and a more administratively efficient process on the part of the government would expedite the supply of imported inputs and increase agricultural productivity in the study area.

Roads connecting coffee societies and factories that become impassable in wet weather also interfere with supply of inputs from society to factory to farmer. Once the society obtains inputs there is no certainty they will arrive in the hands of farmers in a timely manner. During rainy seasons it becomes extremely difficult for societies to distribute inputs to factories. At worst, farmer productivity suffers from lack of inputs. At best, transportation costs increase to societies and farmer returns are reduced. Again, this affects all crops in the study area.

Controlled prices of fertilizers and seeds have the potential benefit of keeping input costs to farmers low. Unfortunately, the same low prices also serve as a disincentive to private traders who might potentially stock the goods. Given the undependability of input supply through the coffee union, facilitating greater private sector involvement in input supply through

relaxation of input price controls would have a beneficial effect on farmer productivity and input costs, and would also improve income multiplication in the study area.

Paradoxically, in a region with 15 percent unemployment, farmers complain of a lack of labor for production. Almost 30 percent of farmers in the study area mention lack of labor as a constraint on current production. In addition ten percent of coffee growers who claim they would like to expand production say they are unable to do so because of labor shortages. Any mechanism that would improve farmer access to wage labor would not only result in higher levels of production in both the short and long term, but would also have direct and indirect income generation benefits for Kutus and the study region as a whole.

IV. RURAL-URBAN EXCHANGE AND INCOME MULTIPLICATION IN THE KUTUS REGION

This chapter analyzes rural-urban exchange and income multiplication in production and consumption in Kutus town and its hinterland. Section A analyzes the percentage distribution of gross revenues from the production and marketing of coffee, maize, and tomatoes in order to determine what proportion of sales is retained in the study area and what accrues to areas outside the region. Section B is a similar exercise for farm and town household consumption expenditure. Section C focuses more sharply on implications of rural-urban exchange and income multiplication for Kutus town. Section D provides observations regarding opportunities for economic growth based on the foregoing material. Agricultural production cost data in this chapter reflect only costs associated with commercial production.

A. Marketing and Production of Coffee, Maize, and Tomatoes

Tables 4.1, 4.2, and 4.3 show the percentage distribution of gross revenues from production and sale of key commodities among marketing and production inputs and profits, and also how gross revenues are distributed spatially. The first column shows how one hundred percent of gross revenue from a particular commodity is distributed between marketers and producers. The second column shows how those percentages are distributed among various inputs to marketing and producing the commodity and also the percentage profit, or net revenue, accruing to marketers and producers. The remaining columns show how those percentages of marketing and production input expenditures and profits are distributed inside the study area, between the urban and rural portions of the study area, and outside the study area.

Percentages in the columns showing the inside, urban, rural, and outside "share" distributions are calculated to show the area to which value accrues as a result of providing inputs to the first round of revenue distribution. For example, in Table 4.1, 3.5 percent of the final price of coffee goes to the Kenya Planters Cooperative Union, the Coffee Board of Kenya, and the Kirinyaga County Council; 10 percent goes to the Coffee Society, and 86.5 percent goes to the farmer. A 5.73 percent share is spent by the farmer on current inputs. Of that, a 1.53 percent share of the final price accrues inside the study area. The 1.53 figure is a function both of where the inputs were purchased by the farmer and from where those inputs, or the labour and materials to produce them, were obtained by the supplier. Thus, the inside share (1.53), urban share (0.44), rural share (1.09), and outside the study area share (4.20) of current input expenditures are "second round" accrual shares. Shares for all other inputs to marketing and production, with the exception of paid labor and net revenues, are calculated similarly.

Shares to paid labor and net revenue are based on where the laborers, marketers, and farmers live. For example, in the same table, a 4.51 percent share of the final price of coffee goes to labor hired by the farmer. The 3.52 share inside the study area reflects the fact that 78 percent of coffee wage laborers live inside the study area ($4.51 \times .78 = 3.52$). The 3.52 figure is

further divided between urban (1.40) and rural (2.12) portions of the study area, in accordance with where coffee farming wage laborers live. Similarly, the 0.99 percent share accruing outside the study area reflects wages of workers who live outside the study area.

For coffee, gross revenue refers to the price paid to the coffee Cooperative Union (CU) by the Coffee Board of Kenya parastatal; the "marketing shares" include distributions to and by the CU, the Kirinyaga County Council (CC), and the coffee societies. For maize, gross revenue refers to a weighted composite of the price received by store traders from the NCPB parastatal and the price received by Kutus open air market traders from final consumers; the marketing shares, their distributions, and the producer share (price) are composites similarly weighted to reflect proportions marketed through the two marketing channels. For tomatoes, weighted composites were derived in similar fashion to reflect marketing through long distance traders in the Nairobi market and marketing through traders in the Kutus open air market. Gross revenue flow tables in this chapter are based on the same composites. Composite price and share data were derived for this chapter in order to develop estimates of rural-urban exchange and income multiplication in the study area. The figures in this chapter, therefore, may not always agree with those in Chapter III, which are actual recorded values associated with the individual commodity systems on which the chapter concentrates.

MARKETING

The proportion of the final price that goes to marketing operations is 13.50 percent for coffee, 18.35 percent for maize, and 15.00 percent for tomatoes. The marketing share of gross revenue comes from two sources: marketing inputs and marketing profits.

The percentages of gross revenue that go to marketing inputs for coffee, maize, and tomatoes are 13.5, 3.45, and 4.8, respectively. The figure for coffee includes the 3.5 sum which is the combined share of KPCU, CBK, and the County Council. Still, if one ignores that part, 10 percent remains as coffee's share of gross revenue allocated to marketing inputs; the relatively high figure is a function of the rather large share to administrative costs, which maize and tomato traders have little or none of, and a relatively higher paid labor share. Most maize traders employ very little paid labor, if any. Tomato traders in the open air market employ equally little labor, although long distance tomato traders hire a few part time workers to package and load boxes, especially on market days.

Percentage profit for coffee, maize, and tomato marketers is zero, 14.90, and 10.2, respectively. Although the zero profit figure for coffee is somewhat misleading, it is still safe to say that maize traders are getting a significantly higher margin than traders of other commodities. At least part of the explanation lies in NCPB operations and the dualistic marketing structure for maize. As noted in Chapter III, farmers sell maize to traders in the open air market and to store traders. When store traders cannot buy maize due to cash flow problems that result from NCPB payment delays, farmers are obliged to sell

Table 4.1

PERCENTAGE DISTRIBUTION OF GROSS REVENUE FROM COFFEE
MARKETING AND PRODUCTION*

		Total Share	Inside Share	Urban Share	Rural Share	Outside Share
Gross Revenue	100					
CU & CC	3.50					
Operations		3.50	0.00	0.00	0.00	3.50
Society Margin	10.00					
Admin		4.09	0.40	0.40	0.00	3.69
Maint/Fuel/Transp		0.60	0.30	0.22	0.08	0.30
Labor		3.10	2.42	0.96	1.46	0.68
Travel		0.37	0.00	0.00	0.00	0.37
Educ		0.74	0.00	0.00	0.00	0.74
Housing		0.42	0.18	0.11	0.07	0.24
NSSF		0.17	0.00	0.00	0.00	0.17
Other		0.51	0.00	0.00	0.00	0.51
<hr/>						
Total Mktng		13.50	3.30	1.69	1.61	10.20
Net Rev		0.00	0.00	0.00	0.00	0.00
Producer Price	86.50					
Current Inputs		5.73	1.53	0.44	1.09	4.20
Farm Expenses		2.32	0.87	0.31	0.56	1.45
Transport		0.36	0.27	0.21	0.06	0.09
Tools & Equipment		3.71	1.28	0.90	0.38	2.43
Paid Labor		4.51	3.52	1.40	2.12	0.99
<hr/>						
Total Inputs		16.63	7.47	3.26	4.21	9.16
Net rev		69.87	69.87	2.10	67.77	0.00
Totals	100	100.00	80.64	7.05	73.59	19.36

* A full explanation of this table is provided in the introductory paragraphs of this section.

Table 4.2

PERCENTAGE DISTRIBUTION OF GROSS REVENUE FROM MAIZE
MARKETING AND PRODUCTION*

		Total Share	Inside Share	Urban Share	Rural Share	Outside Share
Gross Revenue	100					
Trader Margin	18.35					
Permit		0.34	0.00	0.00	0.00	0.34
Maint/Fuel/Transp		2.06	1.54	1.19	0.35	0.52
Water & Elec		0.04	0.00	0.00	0.00	0.04
Raw Mat		0.00	0.00	0.00	0.00	0.00
Rent		0.69	0.30	0.18	0.12	0.39
Equip		0.17	0.05	0.04	0.01	0.12
Paid Labor		0.15	0.13	0.03	0.10	0.02
Total Mkting		3.45	2.02	1.44	0.58	1.43
Net Rev		14.90	12.07	7.15	4.92	2.83
Producer Price	81.65					
Current Inputs		9.28	2.10	0.85	1.25	7.18
Farm Expenses		2.08	0.80	0.27	0.52	1.28
Transport		0.76	0.57	0.44	0.13	0.19
Tools & Equipment		3.36	1.16	0.81	0.35	2.20
Paid Labor		10.56	8.24	3.28	4.96	2.32
Total Inputs		26.04	12.87	5.65	7.21	13.17
Net Rev		55.61	55.61	2.78	52.83	0.00
Totals	100.00	100.00	82.57	17.02	65.54	17.43

* A full explanation of this table is provided in the introductory paragraphs of this section.

Table 4.3

PERCENTAGE DISTRIBUTION OF GROSS REVENUE FROM TOMATO
MARKETING AND PRODUCTION*

		Total Share	Inside Share	Urban Share	Rural Share	Outside Share
Gross Revenue	100					
Trader Margin	15					
Permit		0.45	0.00	0.00	0.00	0.45
Maint/Fuel/Transp		1.95	0.00	0.00	0.00	1.95
Water & Elec		0.00	0.00	0.00	0.00	0.00
Raw Mat		0.00	0.00	0.00	0.00	0.00
Rent		0.00	0.00	0.00	0.00	0.00
Equip		0.00	0.00	0.00	0.00	0.00
Paid Labor		2.40	1.32	0.53	0.79	1.08
Total Mkting		4.80	1.32	0.53	0.79	3.48
Net Rev		10.20	6.26	3.64	2.62	3.94
Producer Price	85					
Current Inputs		10.91	3.58	2.31	1.26	7.33
Farm Expenses		2.49	0.94	0.34	0.60	1.56
Transport		2.73	2.05	1.57	0.47	0.68
Tools & Equipment		3.91	1.35	0.97	0.40	2.55
Paid Labor		0.00	0.00	0.00	0.00	0.00
Total Inputs		20.04	7.92	5.19	2.73	12.12
Net Rev		64.96	64.96	0.00	64.96	0.00
Totals	100	100.00	80.46	9.36	71.10	19.54

* A full explanation of this table is provided in the introductory paragraphs of this section.

at lower prices to traders in the open air market, resulting in a higher average trader margin. If competition among maize marketers were not depressed artificially consequent to NCPB operations, maize trader margins and profits would be more in line with those of other commodities, to the benefit of farmers.

At the regional level, the marketing share (both inputs and net revenue) of gross revenues is 3.3 percent for coffee, 14.09 percent for maize, and 7.58 percent for tomatoes. Marketing inputs from inside the study area account for 3.3, 2.02, and 1.32 percent for coffee, maize, and tomatoes, respectively. At the regional level then, the figure for coffee only slightly exceeds those for maize and tomatoes. A relatively small portion, 24 percent (see Table 4.4), of

Table 4.4

SUMMARY OF TOTAL AND INSIDE SHARES OF GROSS REVENUES
FROM COFFEE, MAIZE, AND TOMATOES

	Coffee			Maize			Tomato		
	Total Share	Inside Share	% of Tot	Total Share	Inside Share	% of Tot	Total Share	Inside Share	% of Tot
Mkt	13.50	3.30	24	3.45	2.02	59	4.80	1.32	28
Net Rev	0.00	0.00	0	14.90	12.07	81	10.20	6.26	61
Prod	16.63	7.47	45	26.04	12.87	49	20.04	7.92	40
Net Rev	69.87	69.87	100	55.61	55.61	100	64.96	64.96	100
TOTALS	100.00	80.64		100.00	82.57		100.00	80.46	

* An explanation of the numbers in this table is provided in the introductory paragraphs of this section.

the coffee society share goes for operating expenditures inside the study area. The regional share figure for tomatoes drops below that for maize because transportation expenses of long distance tomato traders, as well as a large proportion of their labor expenses, are incurred outside the region.

The share of trader profit that stays inside the study area is zero percent for coffee, 12.07 for maize, and 6.26 percent for tomatoes. As noted, coffee societies are assumed to make no profit. The figure for maize is significantly higher than that for tomatoes because a large of portion tomato profit accrues

to long distance traders who live outside the study area. The vast majority of maize traders in Kutus are from the region.

PRODUCTION

The bulk of the final prices of coffee, maize, and tomatoes in the study area go to production costs, including inputs and farmer net revenue. The production share of gross revenues is 86.5 percent for coffee, 81.65 percent for maize, and 85 percent for tomatoes.

The percentage of gross revenue that goes to producer inputs is 16.63, 26.04, and 20.04 percent for coffee, maize, and tomatoes, respectively. The relatively large figure for maize is a function of disproportionately large current input and labor shares, which may be partly accounted for by the practice of intercropping beans with maize. The percentages of gross revenue that go to producer profit are 69.87, 55.61, and 64.96. The low profitability of maize is at least partly accounted for by the lower producer price discussed earlier.

Regional shares of the portion of gross revenues that go to production are 77.34 percent, 68.48 percent, and 72.88 percent for coffee, maize, and tomatoes, respectively. The percentages of gross revenue going to producer inputs that stays in the study area are 7.47, 12.87, and 7.92. The high figure for maize is again due to a relatively high labor share. Most farm wage labor, regardless of the activity or crop for which it is employed, is from the Kutus Region.

The bulk of the regional share figures is accounted for by producer profit, all of which, by definition, accrues to farmers living in the region.

In sum, 80.64 percent, 82.57 percent, and 80.46 percent of gross revenue for coffee, maize, and tomatoes respectively stays in the study area. There is surprisingly little variation in the bottom line in terms of regional retention of gross revenues. Revenues accrue to the study area to similar degrees for all three commodities. The common wisdom that cash crop revenues, as opposed to food crop earnings, leak out from a region appears not to hold in the case of the Kutus study area.

Although the regional share figures appear to vary little among the three commodities, when looked at in terms of absolute value of aggregate sales of the commodities picture changes dramatically. Table 4.5 shows total sales and the value that accrues inside and outside the study area from the three commodities. The table shows the extreme dominance of coffee in the region, at least in terms of cash sales. Eighty-seven percent of sales of the three key commodity is from coffee production and marketing.

B. Household Consumption Expenditures

Tables 4.6 and 4.7 show the percentage distribution of total expenditures by farm and town households across various categories of items and also how total expenditures are distributed spatially. Column one shows household expenditure on a particular item as a percentage of total expenditure. Columns two through

five show expenditures, as a percentage of total, that accrue inside the region, to Kutus, to the surrounding rural area, and outside the region. The regional shares are again a function of where the item is purchased and where the inputs that are used in producing the item are purchased.

Table 4.8 summarizes farm and town household expenditures as a percentage of total consumption and shows shares retained in the region. In addition regional shares are expressed as a percentage of total shares in order to highlight its relative importance among expenditure items and town and farm households.

The three biggest budget items for farm households are food, education and health, and consumer expendables. Together the three account for 78.67 percent of the average farm family's budget. Town households spend the majority of their money on food, consumer expendables, and housing. The town household budget share for those three items is 77.33 percent.

It is not surprising that food is the biggest budget item for both farm and town households, and the tables show that farm households spend 47.61 percent of their total budget on food while town households spend 53.59 percent. The difference is explained by the fact that farm households provide for more of their subsistence with home grown food than do town households.

The biggest difference in budget allocations comes in the education and health category. Farm families spend almost 20 percent of their budget on education and health while town households spend only 5.35 percent. Most of the expenditure in this category is on education, and the difference in budget shares between households is at least partly explained by the number of children in school. Children of school age in farm households exceed those of town households by a factor of two. Still, farm households spend almost twice as much per school age child as do town households.

The housing share of the budget is bigger for town households than it is for farm households. Town households spend 8.23 percent and farm households spend only 1.2 percent of their respective budgets on housing. Included in the figure on housing is home improvements, a relatively minimal amount, and rent, the bulk of expenditure in this category. The difference in expenditure between farm and town households for housing is explained by the fact that town households pay rent and farm households do not.

Town households spend a slightly larger share of their budget on consumer expendables, 15.51 percent compared to 11.07 percent for farm households. The difference is largely a result of higher levels of spending by town households on utilities such as water and electricity.

Looking at the data from a spatial perspective, the study area share of farm household expenditure on food as a percentage of the total food share is smaller than the comparable figure for town households. This is so because farm households are widely dispersed in the study area and may in fact live closer to outside food suppliers, and they choose to buy at those locations occasionally.

Table 4.5

GROSS REVENUE FLOWS INSIDE AND OUTSIDE
THE REGION FROM COFFEE, MAIZE, AND TOMATO
MARKETING AND PRODUCTION (KSh per annum)

	Gross Revenue	Gross Inside	Gross Outside
Coffee	84,401,388	68,061,279	16,340,109
Maize	7,836,237	6,469,598	1,366,639
Tomatoes	3,942,260	3,171,942	770,318
Totals	96,179,885	77,702,819	18,477,066

Table 4.6

PERCENTAGE DISTRIBUTION OF TOTAL CONSUMPTION
BY FARM HOUSEHOLDS
(Cash Purchases Only)

Item	Total Share	Inside Share	Urban Share	Rural Share	Outside Share
Food	47.61	31.42	8.80	22.62	16.19
Clothes & Footwear	5.22	1.72	1.12	0.60	3.50
Consumer Expendables	11.07	5.16	3.61	1.55	5.92
Housing	1.20	1.03	0.87	0.16	0.17
Transport	3.99	2.99	2.30	0.69	1.00
Consumer Durables	2.39	0.57	0.40	0.17	1.81
Education and Health	19.99	9.99	6.00	4.00	10.00
Personal Services	1.45	1.45	0.00	1.45	0.00
Social Obligations	7.08	4.60	1.15	3.44	2.48
Totals	100.00	58.93	24.25	34.68	41.07

Table 4.7

PERCENTAGE DISTRIBUTION OF TOTAL CONSUMPTION
BY TOWN HOUSEHOLDS
(Cash Purchases Only)

Item	Total Share	Inside Share	Urban Share	Rural Share	Outside Share
Food	53.59	37.51	10.50	27.01	16.08
Clothes & Footwear	4.84	1.26	0.82	0.44	3.58
Consumer Expendables	15.51	7.29	5.10	2.19	8.22
Housing	8.23	3.60	2.16	1.44	4.63
Transport	4.33	3.24	2.50	0.74	1.08
Consumer Durables	3.74	0.60	0.42	0.18	3.14
Education and Health	5.35	2.67	1.66	1.01	2.68
Personal Services	0.54	0.54	0.54	0.00	0.00
Social Obligations	3.88	0.90	0.22	0.67	2.99
Totals	100.00	57.60	23.92	33.68	42.40

Table 4.8

SUMMARY OF TOTAL AND INSIDE SHARES OF FARM AND TOWN
HOUSEHOLD CONSUMPTION
(Cash Purchases Only)

Item	FHH			THH		
	Total Share	Inside Share	% of Total	Total Share	Inside Share	% of Total
Food	47.61	31.42	66	53.59	37.51	70
Clothes & Footwear	5.22	1.72	33	4.84	1.26	26
Consumer Expendables	11.07	5.16	47	15.51	7.29	47
Housing	1.20	1.03	86	8.23	3.60	44
Transport	3.99	2.99	75	4.33	3.24	75
Consumer Durables	2.39	0.57	24	3.74	0.60	16
Education and Health	19.99	9.99	50	5.35	2.67	50
Personal Services	1.45	1.45	100	0.54	0.54	100
Social Obligations	7.08	4.60	65	3.88	0.90	23
Totals	100.00	58.93		100.00	57.60	

The regional share for housing is relatively much higher for farm households than it is for town households. Housing costs for farm households are largely home improvements the inputs for which are mostly locally acquired materials and labor. On the town side, housing costs are almost exclusively a function of rent payments which not infrequently accrue to landlords living outside the study area.

The regional shares for clothes and footwear and consumer durables are relatively lower for town households than farm households. This may reflect a propensity on the part of town dwellers, who also have higher levels of household cash income, to consume imported items within those general categories. The relative differences are not extreme, however, and the total shares for those budget items are not particularly large.

In the final analysis, the figures on the regional dimension of household expenditure reveal that a similar percentage of total expenditure made by farm and town households is retained in the region. Almost 59 percent of farm household expenditure is retained in the Kutus region while about 58 percent of town household expenditure stays in the area. These figures imply a rather high income multiplication effect from consumption expenditure of both farm and town households.

Table 4.9 shows absolute regional expenditure flows from household consumption expenditure. It is evident that farm households dominate final demand, accounting for about 80 percent of total consumption expenditure in the study region.

C. Rural-Urban Exchange Summary

MARKETING AND PRODUCTION

Table 4.10 summarizes Kutus town shares of gross revenue distribution of marketing and production inputs and profits. Coffee has the lowest urban share at 7.05 percent, maize the highest at 17.02 percent, and tomatoes lie between the two at 9.36 percent. The relatively high urban share for maize is explained to a large extent by marketing profits. Urban shares for marketing profit are 7.15 percent for maize, 3.64 percent for tomatoes, and zero percent for coffee. As noted earlier, a relatively large share of gross revenue for maize goes to trader profit. Maize traders are by and large from Kutus so a large share of trader profits goes to the town. Coffee has no profits and the profit share of tomato trader is lower, with a good deal of it accruing to long distance traders from outside the study area.

Maize also shows a slightly higher urban share for production inputs. The figures are 5.65 percent for maize, 5.19 percent for tomatoes, and 3.26 percent for coffee. This is mainly due to a larger total share for production inputs and not to a relatively larger amount accruing to urban areas, as can be seen by the percent of total figures: 20 percent, 22 percent, and 26 percent for coffee, maize, and tomatoes, respectively. Maize shows a higher urban share for producer profits as well. This is due to the fact that urban households grow and sell maize to a slightly greater extent than they grow and sell other

Table 4.9

TOTAL EXPENDITURE FLOWS INSIDE AND OUTSIDE
THE REGION FROM FARM AND TOWN HOUSEHOLD
CONSUMPTION (KSh per annum)

	Total Expenditure	Total Inside	Total Outside
Farm HH	85,320,369	50,285,916	35,034,453
Town HH	21,957,886	12,647,556	9,310,330
Totals	107,278,255	62,933,472	44,344,783

Table 4.10

SUMMARY OF TOTAL AND URBAN SHARES OF GROSS REVENUES
FROM COFFEE, MAIZE, AND TOMATOES

	Coffee			Maize			Tomato		
	Total Share	Urban Share	% of Total	Total Share	Urban Share	% of Total	Total Share	Urban Share	% of Total
Mkt	13.50	1.69	13	3.45	1.44	42	4.80	0.53	11
Nt Rev	0.00	0.00	0	14.90	7.15	48	10.20	3.64	36
Prod	16.63	3.26	20	26.04	5.65	22	20.04	5.19	26
Nt Rev	69.87	2.10	3	55.61	2.78	5	64.96	0.00	0
TOTALS	100.00	7.05		100.00	17.02		100.00	9.36	

crops. In sum, maize marketing and production generate more income for Kutus town per KSh. of final sales than do marketing and production of the other crops.

At the absolute aggregate level, the story is once again somewhat different. Table 4.11 shows the urban-rural breakdown based on total sales of the three key commodities. The table once again confirms that the level and proportion of total sales from key commodity production that accrue to Kutus and its hinterland are mostly determined by coffee production and sales. Seventy-eight percent of the money flowing in to Kutus from key commodity sales comes from coffee.

Table 4.11

GROSS REVENUE FLOWS TO KUTUS AND HINTERLAND
FROM COFFEE, MAIZE, AND TOMATO MARKETING
AND PRODUCTION (KSh per annum)

Commodity	Total Prod	Urban Total	Rural Total
Coffee	84,401,388	5,950,298	62,110,981
Maize	7,836,237	1,333,728	5,135,870
Tomatoes	3,942,260	368,996	2,802,947
Totals	96,179,885	7,653,022	70,049,798

HOUSEHOLD CONSUMPTION EXPENDITURES

Table 4.12 shows Kutus shares of the distribution of farm and town household consumption expenditure items. Town households have a higher urban share for food, 10.5 percent, than do farm households, 8.8 percent. This is principally because the food share of total expenditures of town households is higher than for farm households, and not because the urban share of food expenditures is relatively higher for town households, as the food figures in the "Total Share" columns show.

A similar situation is found for spending on consumer expendables. The town household urban share is 5.1 percent and the comparable figure on the farm household side is 3.61 percent. The higher town household urban share is really a function of the larger share that consumer expendables represent of the total.

Farm and town households have similar levels of urban shares for the categories of clothes and footwear and consumer durables. The relative urban shares are

higher for farm households, as seen in the "% of Total" column, suggesting that town households buy more of these items outside Kutus, and indeed outside the study area.

Farm households show a higher urban share for health and education than do town households. Again this is explained by higher total shares to health and education and not relatively higher urban shares.

Town households have a significantly higher urban share, 8.23 percent, than farm households, 0.87 percent, for housing expenditures. This is because of the higher total share to housing for town households, and not because of a relatively higher share of housing expenditure going to Kutus. In fact it can be seen that the farm household urban share as percentage of total shares is significantly higher than the town household urban share, 73 percent as against 23 percent. As mentioned earlier, inputs to farm expenditure on housing are materials and labor, and these inputs come from Kutus town for the most part. Town household housing expenditure is primarily for rent, which accrues to landlords who for the most part live outside the region or in the rural portion of the study area.

Despite some differences in urban shares among categories of household expenditure, expenditures by farm and town households benefit the Kutus economy to a very similar degree in proportional terms. Approximately 24 percent of both farm and town household consumption expenditure in the study area flows to Kutus town.

Table 4.12

SUMMARY OF TOTAL AND URBAN SHARES OF FARM AND TOWN
HOUSEHOLD CONSUMPTION

Item	FHH			THH		
	Total Share	Urban Share	% of Total	Total Share	Urban Share	% of Total
Food	47.61	8.80	18	53.59	10.50	20
Clothes & Footwear	5.22	1.12	21	4.84	0.82	17
Consumer Expendables	11.07	3.61	33	15.51	5.10	33
Housing	1.20	0.87	73	8.23	2.16	26
Transport	3.99	2.30	58	4.33	2.50	58
Consumer Durables	2.39	0.40	17	3.74	0.42	11
Education and Health	19.99	6.00	30	5.35	1.66	31
Personal Services	1.45	0.00	0	0.54	0.54	99
Social Obligations	7.08	1.15	16	3.88	0.22	6
Totals	100.00	24.25		100.00	23.92	

The earlier household consumption expenditure discussion noted that almost 59 percent of farm household expenditures accrue to the study area and about 58 percent of town household expenditures accrue to the study area. The difference between those figures and the 24 percent that accrues to Kutus town is accounted for by farm household purchases in rural shopping centres, by farm household ownership and labour inputs to Kutus enterprises, and especially by sales of locally grown food in Kutus.

Table 4.13 shows urban-rural expenditure flows in absolute aggregate terms for farm and town households. Total farm household expenditure greatly exceeds total town household expenditure. This is due largely to the greater number of farm households, though, as will be seen in Chapter VI, farm households in the study area also report slightly higher average levels of household expenditure than do Kutus households. Four-fifths of the total accrual of study area household spending to Kutus is accounted for by farm household expenditure patterns.

Again, a significant portion of the over KSh. 37,000,000 per year that accrues to the rural portion of the study area from household expenditures reflects ownership and employment inputs by farm households to town enterprises, a significant form of urban and rural purchases from farm households. Hence, the overwhelming market power is in the hands of rural households in the study area, but rural-urban exchange takes place physically, by and large, in Kutus town.

Table 4.13

TOTAL EXPENDITURE FLOWS TO KUTUS AND HINTERLAND
FROM FARM AND TOWN HOUSEHOLD CONSUMPTION
(KSh per annum)

	Total Expenditure	Urban Amount	Rural Amount
Farm HH	85,320,369	20,620,485	29,665,431
Town HH	21,957,886	5,311,870	7,335,686
Totals	107,278,255	25,932,355	37,001,117

D. Conclusions

Overall, the data reveal a healthy pattern of rural-urban exchange in the study area, with shares in the vicinity of 80 percent of the final prices of coffee, maize, and tomatoes accruing within the region as profits and labor wages or the second round of other expenditures on marketing and production. The total

value of sales of these commodities, amounting to over KSh. 96,000,000 annually, result in an accrual of over KSh. 7,500,000 in Kutus and over KSh. 70,000,000 within the rural portion of the study area. Farm households then spend over KSh. 50,000,000 annually on household consumption in the study area, of which over 40 percent accrues to Kutus.

However, a substantial portion of this spending that does not accrue to Kutus is actually spent in Kutus, but ultimately accrues to study area farm households that market agricultural commodities in Kutus and that have members engaged in business or working in Kutus. Farm households drive the town economy, from which both town and farm dwellers gain and then make 60 percent of their household expenditures in the study area, and then gain again. This is the sort of rural-urban exchange dynamic desired in RTPCs.

But the figures also reveal further opportunities for economic growth in the study area, echoing to a great extent observations made in the conclusion section of the previous chapter.

Inputs to coffee marketing have relatively low income multiplication effects in the study area. This is due in part to the nonprofit nature of the coffee societies: what would otherwise be profits are reflected in better payments and other benefits to farmers. But it is also due in part to the fact that 90 percent of administrative costs accrue outside the study area. These administrative costs cover not only coffee marketing per se, but other activities of the societies, such as input supply. To the extent that more of the costs associated with input supply were spent within the study area, and within Kutus in particular, the local economy to which study area farmers are most closely connected would benefit. An arrangement to make this possible might be worth pursuing as part of an effort to improve the coffee input supply situation mentioned in the previous chapter.

A comparatively low share of the final price of maize accrues to farmers in the study area. The combination of price and movement controls and delays in NCPB payments to traders introduce market distortions to the disbenefit of farmers. Measures making possible more competition in maize trading would provide farmers with improved market options, and probably yield better producer prices and lower trader price margins. To some extent, this would amount merely to shifting benefits from local traders to local farmers. But improved producer prices are likely to call forth more production, which would result in more trading in the commodity, to the benefit of everyone.

Tomato marketing has comparatively low income multiplication effects in the study area and in Kutus. The reason is because large portions of this commodity are marketed through long distance traders who incur transportation and labor expenses outside the study area. To the extent that this arrangement best suits the needs of farmers and yields them the greatest effective returns, the study area is well served despite the low income multiplication effects from marketing. However, there may be possible arrangements that enable farmers to play a larger role in marketing their tomatoes in Nairobi, and thereby improve both their direct returns and income multiplication in the study area.

Though roads are sometimes impassable in wet weather, on the whole farms in the study area have relatively reasonable access to Kutus. Farm households utilize this access heavily to buy and sell to and through Kutus as producers, as urban entrepreneurs and workers, and as consumers. This phenomenon highlights the importance of access for tapping the income generating power of rural-urban exchange, but also hints that even more such spending could be facilitated by further improved access and urban commercial facilities. It is likely that improved commercial facilities would also yield more spending in Kutus by Kutus residents, who now purchase a variety of goods and services elsewhere for lack of local suppliers.

V. POTENTIAL INTERVENTIONS

Following are suggestions generated by this study for potential interventions to improve rural-urban exchange, strengthen the role of Kutus as a rural center, and accelerate economic growth in the Kutus area, based on material in the foregoing chapters. These should not be taken as recommendations per se, since detailed examination of feasibility, funding, implementation, management, cost recovery, government policy, and related matters pertinent to specific recommendations was beyond the scope of the research effort. These suggestions are offered for further consideration and study by the government, local authorities and other institutions, donors, and citizens in their efforts to promote rural-urban balance in the Kutus area and elsewhere in Kenya. Since the supporting material for these suggestions appears in the previous chapters, the potential interventions are presented below in cursory form.

A. Physical Capital

1. Market Infrastructure

Market infrastructure refers to the array of possible basic economic infrastructure investments in Kutus that have been under discussion for some time, as well as some that have not. These include: a bus stage; a paved road connecting the new commercial area to the main road; water and power extensions to the new commercial area (already underway); new structures in the old market; paving the old market; improved drainage in the old market; water and power connections in the old market; and improved vehicle access and pedestrian and vehicle traffic control in the old market.

The needs for many of these improvements, the benefits and beneficiaries as well as possible losers, funding and cost recovery mechanisms, and related matters have been and continue to be matters of intense debate. The fundamental needs, with regard to both the old and new markets, are to provide basic utilities to enable businesses to operate and expand; to facilitate access and reduce transaction costs for buyers, sellers, transporters, and input suppliers; to lower operating costs; and to generate local authority revenues. The history of recent economic development in Kutus is the prime indication of opportunity such investments offer for economic development.

The main issue at this point is one of priorities and associated implementation and management, funding, and cost recovery matters. This study confirms the opportunity that market infrastructure investments in Kutus offer, but was not designed to incorporate comparative feasibility or cost/benefit analyses of individual investment possibilities. Field observation, however, makes two points very clear. First, in the absence of massive funding availability, objective study is warranted not of individual market infrastructure investments but of alternative packages of such investments. Certain investments in combination will reinforce each other, and others in combination will be counterproductive; certain

investments in combination will work to the detriment of particular groups or sectors, and others in combination will have all beneficiaries and no losers. Second, cost recovery and revenue generation considerations should be given careful attention, so that the public sector expands its revenue base commensurate with the economic expansion that it facilitates. Together with that, care has to be taken not to introduce levies, license requirements, and fees that discourage commerce and constitute barriers to entry for small enterprises.

2. Small Workshop Space

There is a need for suitable workspaces with inexpensive utilities in the Kutus market area for small enterprises. Small enterprises represent the sector with the greatest growth potential and are often the seeds of future larger businesses. Businesses that can sustain only very low start-up costs need to be encouraged with access to suitable facilities in appropriate locations. Some variant on the nyayo shed program should be undertaken by local authorities, perhaps through a public/private partnership wherein the public sector provides the land in return for private development under favorable conditions for small enterprises.

3. Coffee Input Supply Depot

Farmers require more dependable input supply, as discussed at length in previous chapters. One possible solution is for the cooperative union to establish, perhaps with the help of local authorities, a coffee input supply depot in Kutus as a supplement or partial alternative to the existing system. Separate accounts would be kept for the different societies, and the costs would be charged against those accounts when farmers withdrew inputs. This would solve many of the distribution problems and constitute a considerable convenience to farm households. A further possibility is to incorporate a coffee drop-off station in the depot. In addition to providing farmers with alternatives that would increase their efficiency and productivity, there would be further income multiplication benefits for Kutus.

4. Wholesale Produce Bulking Depot

Tomatoes are currently bulked in the open air market in Kutus. As agriculture expands in the unregulated commodities, the transaction costs of this arrangement will mount. A bulking depot that allowed for efficiency in the bulking/wholesale trading process could be a commercially viable private operation, and would capture locally more of the value added in the final prices of bulked commodities, including those brought to Kutus for bulking from outside the study area. Local authorities should undertake consultations with private developers to explore the options for public/private partnership toward developing this facility oriented to accommodating long-term agricultural expansion and diversification in the study area.

5. Improved Society-to-Coffee Factory Roads.

The needs, benefits, and indicators of opportunity for this intervention have been fully covered in previous chapters. It should be stressed that the area of greatest need for improved access in rainy seasons is the region of highest coffee potential, in the north of the study area. Some of the factors that make this a high potential region are the same as make passage particularly difficult in the rainy seasons and makes the losses most severe when passage is not possible. It should also be stressed that productivity in crops other than coffee would gain from more dependable access, since inputs from the societies are used on all crops.

6. Improved Farm-to-Market Roads

The needs, benefits, and indicators of opportunity for this intervention as well have been covered at length in previous chapters. In this case, the target commodity is tomatoes in particular, owing to the higher transportation costs associated with them and their high rate of perishability. This means that the priority improvements would be in the eastern portion of the study area.

7. Irrigation Technology for Tomatoes

The benefits of tomato irrigation are documented in Chapter III. Increased opportunities for such irrigation prevail particularly in the east and south of the study area. The study team was unable to determine whether irrigation is not more widespread because of problems of marginal cost, financing, egress, equipment availability, repair/maintenance availability, some other, or a combination of these. The potential is clearly great, and the matter warrants a program of study and facilitation. It should be noted that other study area high-value crops such as french beans would also benefit from irrigation.

B. Institutional Capital

8. Cooperative Tomato Marketing

There is a high differential between the price tomato farmers are paid in Kutus and the price long distance traders receive in Nairobi. More of the value added in the Nairobi price could be captured and multiplied in the study area if tomato farmers controlled a larger proportion of the marketing through a cooperative or alternative joint marketing arrangement. Farmers would obtain higher prices and more of the marketing input expenditures would accrue to the study area. The matter warrants careful investigation to see if the necessary conditions exist, and if so, the best means for assisting establishment of the endeavor.

9. Kutus Labor Exchange

There is at the same time a serious unemployment problem and a labor shortage in the study area. A labor exchange might be established in

Kutus by the local authority on an experimental basis as a means both of obtaining greater insight into the nature of the problem and attempting to provide a solution for it. The potential benefits to the study area in terms of improved productivity, expanded production, and increased income generation and multiplication are substantial, if reports recorded by the study team are accurate. If successful, the labor exchange could be transferred to the private sector.

10. Revolving Loan Fund for Small Businesses

Successful models abound for the revolving loan fund and related approaches to fostering small enterprise, including many in Kenya. Small and micro-entrepreneurs constitute the highest growth component of the Kutus economy, and are often shut out of the formal credit system. In addition to the obvious immediate benefit of facilitating business expansion in Kutus, such a fund administered by a nonprofit organization gives starting entrepreneurs the opportunity to develop a credit history that enables them more easily to gain initial access to formal financial institutions as their enterprises grow and their credit needs expand. Ideally, such a fund would be coupled with managerial and technical support and training to borrowers.

C. Policy and Procedure

There follow references to six potential interventions related to operational procedures and government policies that have a major bearing on agricultural producer prices, productivity, input costs, price margins, rural-urban exchange, and income multiplication effects in the study area, as described in previous chapters. These operational procedures and government policies currently have a depressing effect on the economy of the study area. The essence of the potential intervention in every case is to examine the feasibility, and if feasible to design a program, for altering the policy or procedure so as to promote the objectives of rural-urban balance in the study area.

11. Relax/Remove Price and Marketing Controls on Maize
12. Eliminate NCPB Payment Delays to Traders or Shift Incidence of Delay to the Public Sector
13. Relax/Remove Agricultural Input Price Controls
14. Streamline Procedures for Agricultural Input Importation
15. Expedite Coffee Union Tendering/Ordering of Farm Inputs
16. Eliminate Coffee Union Payment Delays to Societies or Shift Incidence of Delay to the Source.

VI. LESSONS FOR RURAL-URBAN BALANCE AND THE RTPC PROGRAMME

The purpose of this chapter is to derive lessons from the analysis of the Kutus case and to draw conclusions about the implications for government policy for rural-urban balance and the RTPC Programme. The first part of this chapter examines a number of assumptions or propositions about the nature of rural-urban development that are implicit in government policy and the RTPC Programme. In light of these findings, the second part discusses the relevant implications for current policies and what they mean for the RTPC Programme.

A. Examining the Assumptions.

Implicit in both the strategy for rural-urban balance and the RTPC Programme are a number of assumptions based on a model of rural-urban development that provisions a virtuous circle, or mutually reinforcing set of exchanges, between small towns and their rural hinterlands which spurs the growth of both agriculture and nonfarm activities. According to this model, rising rural income leads to economic growth and diversification of urban activities in small towns, which absorbs surplus rural labor, in turn raising demand for rural produce, and contributing to increased agricultural productivity and again rising rural incomes.

The model can be broken down into a number of propositions that will be examined using Kutus and its hinterland as a test case. Some of these propositions are implicitly addressed in Chapters II and IV, but others require additional analysis. The discussion is arranged around eight statements that summarize the main assumptions underlying government policy. These cover: the role of small towns in agricultural production and marketing; the relationship between agricultural productivity and the composition of farm household incomes; the impact of farm household expenditures on nonfarm activities in the small town; the nature of nonfarm businesses in the small town; their impact on farm household incomes; and, finally, the cumulative impact on migration into the area, and Kutus town in particular.

1. Small towns can improve farmer access to the inputs and services they need to raise agricultural productivity.

A first assumption behind the RTPC Programme is that a network of well distributed small towns makes it easier for farmers to obtain necessary inputs and therefore encourages their use. To test this assumption, we determined the extent to which local farmers make use of intermediate inputs, and what proportion of these are obtained from Kutus town. Farmers were asked about four types of inputs: fertilizers, pesticides, sacks, and manure.

Table 6.1 shows that as much as 90 percent of farmers use inputs like sacks and manure, while only 64 percent use fertilizer. In terms of distribution channels and the location of their purchases, farmers obtain the bulk of their sacks from private traders in Kutus town, but for pesticides and fertilizer they depend mainly on cooperatives or factories located not in the town but in the surrounding rural areas. This difference is explained in part by the lower price and credit facilities offered by the coffee union, and also by the fact

that prices of these items are controlled, and private traders do not find it profitable to distribute them. In the case of manure, farmers almost without exception obtain it from their own animals. However, farmers obtain most farm equipment from Kutus town.

2. Small towns can serve as marketing centres for rural produce.

High transport costs for shipping goods to market reduce farmers' returns and makes it unprofitable for some at the margin to enter the market. At the same time, high costs of collecting produce from many dispersed producers acts as a disincentive to traders, with the result that buyers and sellers fail to meet. Implicit in the RTPC strategy is the notion that a system of small towns, well connected to both producers in their hinterlands and larger urban centres of consumption, helps to remove bottlenecks in marketing agricultural produce, raises incentives to producers, and hence increases incomes to farm households.

One measure of the opportunities, or lack of them, that farmers face in marketing their produce is the proportion of total output that is sold. Other things being equal, a low proportion suggests that farmers in the area have limited opportunities to market their produce, while a high proportion suggests that the marketing system is working effectively.

Table 6.2 shows there is a marked difference among the five major commodities produced in the Kutus Region, which reflect the marketing systems associated with each. At one extreme is coffee, where 100 percent of production is sold, all of it through the coffee union. Since this is strictly a cash crop, the result is to be expected. At the other extreme are maize and beans, where the proportion sold is a little over 40 percent. The relatively low figures for these commodities reflects in part the fact that they are staple consumption items for rural households, but it also suggests that controls on the pricing and marketing of these commodities may be impeding sales. In between these two extremes are tomatoes at 80 percent and bananas at 52 percent, the marketing of which is not subject to price or movement controls.

In the context of the RTPC Programme, it is of interest to know what role the town of Kutus plays in marketing farm produce. At first sight, the data in Table 6.2 suggest it plays a minor role. In terms of the value of farm output, Kutus accounts for only 16 percent of the five major local commodities. This is because coffee far outweighs all other commodities in value, and all of this is collected and marketed through the factories and cooperative societies located in the rural areas outside Kutus town. If coffee is left aside, however, a radically different picture emerges, in which 100 percent of tomatoes, nearly all the maize and beans, and three-quarters of bananas are marketed through Kutus. For these commodities the local town does indeed play a major role as a market center.

Can we expect the same to be true of other small towns, or is Kutus an exception? Casual impressions suggest that compared to other small towns of a similar size, Kutus is unusually active. To a large extent, this would seem to be due to its favorable location as a collection and exchange point at the confluence of three producing regions to the west, east, and south of Mount Kenya, within close distance of the major consumption market of Nairobi. But the

Table 6.1

USE OF AGRICULTURAL INPUTS AND LOCATION OF SUPPLIER

Item	% Farmers using input	No. Purchases Yearly by Surveys, Farm HHs				
		Town	Coop	KGGCU	Outside	Home
Fertilizer	64.0%	12	109	5	1	0
Pesticide	78.0%	30	143	37	2	0
Sacks	91.0%	87	14	0	0	0
Manure	86.0%	0	0	0	0	86
Total:		236	293	42	3	86

Table 6.2

MARKETING CHANNELS FOR MAJOR FARM COMMODITIES

Commodity	Unit	Amount Output	Amount sold	% sold	Value KSh.(000)	Percent value sold to:			
						Kutus trader	Local HH	Coop society	Outside region
Coffee	kgs	237470	237470	100.0%	1862	.0%	.0%	99.9%	.1%
Maize	bags	2150	881	41.0%	156	95.7%	2.6%	.0%	1.7%
Tomatoes	boxes	4278	3406	79.6%	61	100.0%	.0%	.0%	.0%
Beans	bags	765	306	40.0%	123	93.3%	1.3%	.0%	5.4%
Bananas	bunch	1170	604	51.6%	40	75.0%	25.0%	.0%	.0%
Total:					2242	15.8%	.7%	83.0%	.5%

lesson for other small towns is that Kutus appears to be reasonably well-connected to producers and consumers within its hinterland, despite farmer complaints of impassability in wet weather, and the town serves as an effective collection and bulking point for local producers, making it an attractive venue for traders buying for larger urban markets outside the region.

3. Increased agricultural productivity raises farm household incomes.

A third proposition implicit in rural-urban policy is that higher productivity and levels of marketed output substantially increases incomes of rural households. To test this, farm household incomes were broken down into their constituent parts to find out, first, what share is derived from agriculture, and second, how these shares change as income levels rise. This indicates to what extent households are dependent on farming, and to what extent an increase in farm income associated with increases in productivity affects household incomes. The data are presented in Table 6.3.

At the aggregate level, income from agriculture appears to represent a surprisingly small fraction of total farm household income. According to our sample, estimated average annual per capita income among farm households is KSh. 4,121, of which only one third comes from farming. Another third comes from wage labor, one quarter from town businesses operated by farmers, about 6 percent from farm-based nonfarm activities, and a small remainder from remittances.

When the sample is disaggregated into income quintiles, a close relationship emerges between level of income and income diversification, suggesting that as households diversify into other activities outside farming, incomes start to rise. Those that rely almost entirely on agriculture, with little or no income from other sources, except perhaps remittances from other members of the family, are among the poorest in the sample. (The poorest quintile is shown as having a negative average income from farming since cash outlays exceed earnings, a not uncommon situation where the primary purpose of farming is to feed the family.) The first form of income diversification is into wage labor, as indicated by the proportion of households with members earning wages, which rises markedly as income levels increase, from a low of 4 percent among the poorest group to a high of 73 percent for the richest. Wage employment also constitutes the second major source of income for all farm households.

The next form of income diversification is into farm-based nonfarm activities involving 14 percent of middle income families, and 23 percent of the richest families, although the returns from these activities remain a small part of total household income, no higher than 7.5 percent for any quintile, which is rather less than suggested by some earlier researchers in Kenya. Eventually, as incomes rise, households begin to set up their own businesses in town; while less than one in ten of middle income families operate such a business, the proportion rises dramatically to almost one in two of the richest households. Profits from these activities contribute between 25 percent and 30 percent of total income for households in the top two quintiles.

The diversification into other activities means that farming's share of total income declines from nearly a half for the third and fourth quintiles to a

Table 6.3

FARM HOUSEHOLD INCOME BY SOURCE AND QUINTILES

Source	Income quintiles					All
	1	2	3	4	5	
Amount (KSh) per capita per year:						
Farming	4827	1649	755	246	-789	1338
Farm-based nonfarm	780	251	112	39	0	237
Town business	3819	1471	65	58	0	1083
Wage labor	4279	1534	643	156	280	1379
Remittances	267	95	12	19	28	84
Total: (KSh./yr)	13972	5000	1587	518	-481	4121
Percentages:						
Source						
Farming	34.5%	33.0%	47.6%	47.5%	n.a.	32.5%
Farm-based nonfarm	5.6%	5.0%	7.1%	7.5%	n.a.	5.8%
Town business	27.3%	29.4%	4.1%	11.2%	n.a.	26.3%
Wage labor	30.6%	30.7%	40.5%	30.1%	n.a.	33.5%
Remittances	1.9%	1.9%	.8%	3.7%	n.a.	2.0%
Total: (KSh./yr)	100.0%	100.0%	100.0%	100.0%	n.a.	100.0%
	13972	5000	1587	518	n.a.	4121
Number of households:						
Source	1	2	3	4	5	No. HHs
Farming	22	22	22	22	22	110
Farm-based nonfarm	5	1	3	2	0	11
Town business	10	9	2	2	0	23
Wage labor	16	11	10	8	1	46
Remittances	17	11	7	11	14	60
Total:	22	22	22	22	22	110
Percentage of households:						
Source						
Farming	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Farm-based nonfarm	22.7%	4.5%	13.6%	9.1%	.0%	10.0%
Town business	45.5%	40.9%	9.1%	9.1%	.0%	20.9%
Wage labor	72.7%	50.0%	45.5%	36.4%	4.5%	41.8%
Remittances	77.3%	50.0%	31.8%	50.0%	63.6%	54.5%
Total:						110

third for the upper two quintiles. Despite this decline in the relative importance of farming, the absolute amounts of income from farming continue to increase as total household incomes rise.

Returns from agriculture have to do with many factors, among them the amount of land under cultivation; levels of productivity reflecting the use inputs such as fertiliser, pesticides, labor, and mechanical equipment; the mix of cash crops and staples that are planted; and the proportions of staples that are sold. Many of these decisions reflect the farmer's assessment of the risks involved. For farmers who depend almost entirely on farming as a source of income, and more importantly as a means of feeding their families, the risk is high; but for those with alternative sources of income, the risks are lower.

In other words, the opposite is happening to what was anticipated. Although rising agricultural productivity and increased sales of farm produce do raise farm household incomes, more important is that increased household income arising from diversification into other revenue generating activities is making it possible for farmers to raise their productivity in agriculture. Alternative sources of earnings provide a form of insurance to farmers, in the event that returns on their investment in agriculture are less than anticipated, or in the worst case are totally wiped out, due for example to crops failing, or prices collapsing.

4. Rural households create demand for urban goods and services, much of which can be met by small towns.

A fourth proposition underlying the government's rural-urban policy is that spending by rural households on urban goods and services can spur the growth of small towns. This assumes firstly that rural households create demand for urban goods and services, and secondly that small towns can meet much of the demand from rural households. Whether this is so or not depends on the extent to which consumer spending by rural households is captured by the small town or leap-frogs over it to other towns nearby or larger regional centers farther away, places that can offer a wider range of goods, possibly at lower prices. To answer these questions, household respondents were asked what they purchased, where they purchased it, and whether it was locally produced. Using additional information on trader margins and sources of retailer stocks, spending on individual items was distributed between the town, its hinterland, and outside the study region. One interpretation of the results of this analysis was presented earlier in Chapter IV. A different version of the same basic information is presented in Table 6.4.

Looking at the assumption that rural households create demand for urban goods and services, the evidence from Kutus shows this is true, but not quite in the way expected. The demand is not so much for items manufactured in urban areas, but primarily for the items sold there, mostly food, and secondarily for the services provided there. A breakdown of earnings in Kutus town derived from rural spending shows that these are derived mainly from market traders and shops selling food items, from people employed in teaching and medical services, and from transport services. A relatively small part comes from retailing of consumer expendables, shoes and clothing, some part of which is made in Kutus town.

Looking at the assumption that demand from rural households can be met by the small town, the analysis shows that Kutus does indeed play a vital role as a shopping center for rural residents. It is estimated that for every 100 shillings of rural household spending, 41 accrues outside the study area, but 59 are captured by the region. In view of the relatively small size of the region in question, this share is surprisingly high. This is partly due to the high proportion of household spending that goes to food, the greater part of which is produced locally. But it is also because the majority of the region's rural households do most of their shopping in Kutus itself, which is somewhat surprising, given the number of other towns with comparable or superior amenities within a short distance, such as Kerugoya, Karatina, Sagana, and Embu. Possibly, the added time and cost of travelling to those towns acts as sufficient friction to deter local residents from shopping there.

Of the 59 shillings of rural household spending captured by the region, two fifths, or 24 shillings, is retained by the town, and three-fifths, or 35 shillings, goes back to the rural area itself. This shows that Kutus is not only important to rural residents as a shopping center, but also as a market-place for their goods, generating substantial revenues which return to rural households.

5. As rural incomes rise, demand for goods and services in the small town increases, but a higher proportion of spending is done outside the region.

If spending by rural households creates demand for goods and services in the small town, then presumably rising rural incomes ought to generate increased demand for the town's goods and services. This much seems uncontroversial, but the interesting question is whether a larger or smaller proportion of spending is retained by the region or is lost to the outside.

To test this assumption, rural households were sorted into five groups by level of total expenditures to see how spending patterns differed as shown in Table 6.5. Using information on place of purchase, place of production, and trader margins for different items, shares accruing to the study region and outside from final demand by each of the five groups were estimated, as shown in Table 6.6.

Several features stand out from Table 6.5. First, three items dominate consumer spending at all levels: food accounts for close to half of total average spending over all groups; health and education about a fifth; and expendables about a tenth. Second, spending on food does not fall consistently as total spending rises. It fluctuates over a broad range, from a high of 53 percent for the lower middle group, to a low of 41 percent for the upper middle income group, yet the poorest and the richest groups both spend about the same 46 to 48 percent. This fluctuation reflects the transition from subsistence to commercial farming, and the parallel substitution of purchased food for home produced items. In absolute terms, however, average per capita food consumption among the richest quintile is over ten times the poorest. Third, compared to other countries, spending on education and health is high across all households, even the poorest ones, but rises proportionately among wealthier ones.

Table 6.4

DISTRIBUTION OF CONSUMER SPENDING BY FARM HOUSEHOLDS

Average annual spending per household, (KSh.):

Category	Average per HH	Outside region	Within region	-- Of which -- Town Rural	
Food	8973	3051	5922	1658	4264
Shoes & clothing	983	659	324	211	113
Expendables	2087	1115	972	680	292
Housing	227	32	195	164	31
Transport	752	188	564	434	130
Durables	450	342	108	76	32
Ed & health	3767	1884	1883	1130	753
Services	274	0	274	0	274
Obligations	1334	467	867	217	650
Total:	18847	7738	11109	4570	6539
Percentages:					
Category	Average per HH	Outside region	Within region	-- Of which -- Town Rural	
Food	8973	34.0%	66.0%	28.0%	72.0%
Shoes & clothing	983	67.0%	33.0%	65.1%	34.9%
Expendables	2087	53.4%	46.6%	70.0%	30.0%
Housing	227	14.1%	85.9%	84.1%	15.9%
Transport	752	25.0%	75.0%	77.0%	23.0%
Durables	450	76.0%	24.0%	70.4%	29.6%
Ed & health	3767	50.0%	50.0%	60.0%	40.0%
Services	274	.0%	100.0%	.0%	100.0%
Obligations	1334	35.0%	65.0%	25.0%	75.0%
Total:	18847	41.1%	58.9%	41.1%	58.9%

These spending patterns largely explain why the study region's share of final demand increases marginally from 57.1 percent for the poorest group to 59.3 percent for the richest. Spending on food remains a high proportion of total outlays, and most of this is produced within the region. Similarly, spending on education and health is generally high, and rises even higher, a large part of which stays in the region in the form of wages to teachers and medical personnel.

The town of Kutus itself captures a slightly smaller share of final demand as household spending levels rise, dropping from close to 45 percent for the lowest group, to 39 percent for the highest group. Once again, this is largely explained by the high proportions spent on food, but also by a drop in the share going to expendables, much of which accrues to the town, and a rise in the share for social obligations and personal services (domestic servants) that primarily benefits the rural areas. Hence, a significant share of spending by farm households in the study area is retained in the region, and this share remains high, even increases, when levels of expenditure rise.

6. The majority of new businesses in small towns will be informal sector activities.

Sessional Paper Number 1 of 1986 argues that given the country's limited resources of capital, the bulk of new jobs to be created in the years ahead are going to have to be in the informal sector, defined loosely as small, family-owned enterprises with few workers requiring limited amounts of capital and minimal entrepreneurial and management skills. It is also anticipated that most formal sector manufacturing plants—larger production units designed to take advantage of economies of scale—are likely to be located in bigger towns and cities, since they require access to a wide range of inputs and supporting services, large pools of skilled labor, and regional if not national markets. Conversely, it is assumed that the majority of businesses in small towns will be informal sector activities catering primarily for the local market.

A review of several indicators of businesses in Kutus town and shopping centers in the surrounding rural area demonstrates clearly that this assumption is correct. Table 6.7 shows that on average, the number of full time equivalent workers in the survey sample is less than 2.0, a little higher among industrial activities, lower among commerce and services. The median wage rate for employees is KSh. 489 per month for all businesses in the sample, and ranges across a narrow band from a high of KSh. 542 in industry to a low of KSh. 450 in services. Given these wage levels, it is strange to find that the median capital/labor ratio is lowest in industry and highest in services, although for the sample as a whole it is a low KSh. 6,400.

The largest variation between the sectors is to be found in the capital required at start-up; the median ranges from a low of KSh. 1,000 for industrial businesses to five times that amount for commerce, no doubt reflecting the cost of initial stocks that a retailer or wholesaler needs to carry. Median monthly profits per worker are KSh. 719 for all sectors combined, which is modest by any standard, although the median for commerce is over four times higher than

Table 6.5

PERCENTAGE COMPOSITION OF RURAL DEMAND BY TYPE AND SPENDING LEVEL
By spending levels

Category	High		Middle		Low	Average
	1	2	3	4	5	all
Food	48%	41%	50%	53%	46%	47%
Expendables	10%	10%	15%	14%	16%	11%
Transport	4%	6%	4%	5%	6%	5%
Shoes & clothing	4%	7%	7%	7%	7%	5%
Ed & health	21%	24%	16%	15%	19%	20%
Durables	3%	1%	2%	3%	2%	2%
Services	2%	1%	1%	0%	0%	1%
Obligations	8%	9%	4%	3%	3%	7%
Total:	100%	100%	100%	100%	100%	100%
Monthly amount per capita (KSh.)	5642	2594	1666	1170	686	2351

Table 6.6

DISTRIBUTION OF FINAL DEMAND FROM RURAL HOUSEHOLDS BY SPENDING LEVEL.

Category	Average per HH	Outside region	----- Within region -----		
			Total:	Town	Rural
Lower	686	42.9%	57.1%	44.8%	55.2%
Lower middle	1170	42.4%	57.6%	41.8%	58.2%
Middle	1666	41.9%	58.1%	41.2%	58.8%
Upper middle	2594	41.8%	58.2%	42.6%	57.4%
Upper	5642	40.7%	59.3%	39.3%	60.7%
All households	2351	41.1%	58.9%	41.1%	58.9%

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Table 6.7

SELECTED INDICATORS OF TOWN BUSINESSES

Indicator	Commerce	Industry	Services	All
Number of cases	42	25	24	91
Full-time paid workers	1.29	1.24	1.25	1.26
Full-time unpaid workers	.24	.2	.17	.21
Part-time paid workers	.57	1.64	.79	.92
Part-time unpaid workers	.05	.12	.08	.08
Total full time equivalent workers	1.84	2.32	1.86	1.97
Median wage rate (KSh./month)	480	542	450	489
Median start-up capital (KSh.)	5000	1000	1395	2496
Median capital/worker (KSh./worker)	6250	5188	8025	6396
Median profit/worker (KSh./worker/month)	1792	409	588	719

industry, which is one reason perhaps why this sector attracts so many businesses.

7. Growing business activity in small towns generates increased income for rural households.

The development model implicit in government policy envisages the mutually reinforcing economic exchange between urban and rural areas as completing its virtuous circle through the impact of town business activity on farm household incomes. The assumption is that economic growth in the town also helps to raise incomes among rural households. This can take place in three ways: through demand for intermediate inputs to urban businesses from agriculture; through demand from urban households for farm produce; and most directly through wages paid to rural labor employed in urban businesses and profits from urban businesses owned by farm households.

As mentioned earlier, it has been claimed that development of agriculture depends in part on demand from urban industries for intermediate agricultural outputs. As economies advance, it is to be expected that more and more urban industries will require an increasingly wide array of agricultural inputs for all kinds of manufacturing purposes. Given that modern, large-scale industries will for the most part be located in larger towns and cities, we can expect that the major part of demand will come from those cities, rather than smaller towns.

An analysis of the situation in Kutus suggests that at present urban industries create little demand for local agricultural outputs. In the first place, as Table 6.8 shows, at the aggregate level, Kutus businesses purchase only one-eighth of their raw material inputs from within the study area. Of local purchases, just over half are provided by farmers in the area, and the rest from other manufacturing firms in the town itself. Some two-thirds of demand

from Kutus businesses for local agricultural raw materials comes from the commercial sector, mainly for fresh food items, and one third from manufacturing, chiefly timber for the sawmills. Demand from services is insignificant.

The second way in which economic growth in the town affects rural incomes is through demand from urban households for farm produce. Table 6.9 shows that over half, or 58 percent, of final demand is met by producers inside the study region, of which nearly three-fifths accrues to the rural sector. As might be expected, given the high proportion of total household spending that goes to food, the greater part, or 80 percent, of urban demand for rural produce is for food. Other components include expendables and rent for town housing owned by rural households.

The third way in which town activities spur rural household incomes is through wage payments to rural residents, and profits from town businesses to rural owners. Based on data from the field survey, it is estimated that one-third of all profits from town businesses and market trading accrues to owners living in farm households, and two-thirds of all wages paid by town businesses goes to rural labor. If these shares seem high, it should be remembered that 90 percent of the population of the study area lives outside Kutus town itself. The large proportion of urban wage earnings that goes to rural households is also broadly consistent with the earlier observation that 42 percent of farm households derive some part of their income from wage labor.

8. Increased local nonfarm job opportunities slows out-migration from the area, and draws rural migrants to the small town.

Ultimately, a key objective of rural-urban policy and the RTPC Programme is to avoid the excessive concentration of population in Nairobi and other large cities that results from rural to urban migration. While it is recognized that there will inevitably be a significant movement of population out of rural areas in the next two or three decades, it is intended that the flow of migrants should to a large extent be deflected to secondary cities and smaller towns.

In order to fully determine the nature of migration flows affecting the study region, we would need information on both arrivals and departures. We have no data on the number or destination of people who have moved out of the region, but we do have data on those coming in. Table 6.10 shows the district where rural and urban heads of households previously resided and their reasons for moving.

There is very little in-migration to the rural portion of the study region at all. Of all the heads of farm households, 46 percent have not changed their residence since birth. Of those that have moved, 95 percent were already living previously within Kirinyaga District, and a mere 5 percent came from elsewhere, or 2.7 percent of the whole sample. The vast majority of households heads, 93 percent, changed their place of residence for reasons associated with land, while most of the remainder moved for family reasons, and only a small fraction for job opportunities.

Table 6.8

PURCHASES OF RAW MATERIALS BY BUSINESSES IN KUTUS TOWN.

Purchases from	Purchases by town businesses			All	% Total
	Industry	Commerce	Services		
Within the region	64283	157640	23599	245522	12.5%
Agriculture	45869	87830	203	133902	6.8%
Agriculture %	34.3%	65.6%	.2%	100%	
Industry	18414	69810	23396	111620	5.7%
Outside the region	102440	1387210	222505	1712155	87.5%
Total:	166723	1544850	246104	1957677	100.0%
Per cent total:	8.5%	78.9%	12.6%	100.0%	

Table 6.9

DISTRIBUTION OF FINAL DEMAND FROM TOWN HOUSEHOLD
(Average monthly household consumption. KSh.)

Category	Average per HH	Outside region	Within region			% Rural
			Total:	Town	Rural	
Food	9093	2728	6365	1782	4583	80.2%
Clothing & footwear	822	608	214	139	75	1.3%
Expendables	2632	1395	1237	866	371	6.5%
Housing	1397	786	611	367	244	4.3%
Transport	734	184	550	424	126	2.2%
Durables	634	533	101	71	30	.5%
Education & Health	907	454	453	281	172	3.0%
Personal Services	91	0	91	91	0	.0%
Social Obligations	659	507	152	38	114	2.0%
Total:	16969	7195	9774	4059	5715	100.0%
	100.0%	42.4%	57.6%	41.5%	58.5%	

Table 6.10

IN-MIGRATION TO THE KUTUS REGION

A. Heads of rural households

Previous Residence	Land	Job	Family	Other	Total	% Total
Kirinyaga	53	0	3	0	56	94.9%
Nyeri	0	1	0	0	1	1.7%
Embu	0	0	0	0	0	.0%
Muranga	1	0	0	0	1	1.7%
Meru	0	0	0	0	0	.0%
Other	1	0	0	0	1	1.7%
Total moves:	55	1	3	0	59	53.6%
% moves:	93.2%	1.7%	5.1%	.0%	100.0%	
No change					51	46.4%
Total sample					110	100.0%

A. Heads of town households

Previous Residence	Land	Job	Family	Other	Total	% Total
Kirinyaga	0	11	2	2	15	31.9%
Nyeri	0	3	0	0	3	6.4%
Embu	0	5	0	0	5	10.6%
Muranga	1	7	0	1	9	19.1%
Meru	0	3	0	0	3	6.4%
Other	2	6	4	0	12	25.5%
Total moves:	3	35	6	3	47	92.2%
% moves:	6.4%	74.5%	12.8%	6.4%	100.0%	
No change					4	7.8%
Total sample					51	100.0%

For Kutus itself, there is dramatic evidence that the town has been attracting rural migrants, both from its hinterland and beyond. Our sample indicates that a mere 8 percent of current household heads in the town have lived there all their life; the overwhelming majority, 92 percent, previously lived elsewhere. Of the in-migrants, 32 percent come from the district of Kirinyaga, 43 percent from surrounding districts, and 25 percent - or a little less than a quarter of all household heads currently living in Kutus - arrived from other parts of the country. With a few exceptions, all those who moved to Kutus previously lived in rural areas. Three-quarters came because of job-related opportunities, and one in eight for family reasons. This suggests that under the right conditions small towns with a vigorous economy like Kutus can attract substantial numbers of rural migrants, even from far afield.

B. Conclusions for rural-urban policy and the RTPC Programme.

LESSONS FOR RURAL-URBAN POLICY

1. The government's decision to stress agriculture as the basis of rural-urban policy is correct.

Agriculture is indisputably the engine driving development in the Kutus area. The majority of the working population is engaged in farming and the greater part of household incomes of all residents in the study area is derived directly or indirectly from agricultural earnings. Farm households gain about half their income from agricultural production and employment, and most of the rest from wages or profits from town businesses. Town households earn less from farming and more from business, but nearly all local businesses depend primarily on spending by rural households.

Evidence from the Kutus area also indicates that local final demand generates strong income multiplication effects within the region itself, and these get stronger as incomes rise, particularly for rural producers. Currently, close to 60 percent of all household spending is retained in the study region, and almost 60 percent of that returns to study area farmers. It was also found that as incomes rise these proportions increase and are a powerful stimulus to the growth of local agriculture as well as nonfarm activities. In short, the evidence provides strong support for the basic premise underlying rural-urban policy that efforts to promote rural economic development and the growth of farm incomes must start with agriculture, not manufacturing.

2. The emphasis in rural-urban policy on linkages between rural and urban activities as a means of increasing agricultural productivity is sound.

The Kutus case shows clearly that small towns can play a crucial role in supporting agricultural production and raising productivity. This happens in two ways. First, the town acts as a center for the distribution of farm inputs, and for the collection and marketing of farm produce. In this respect, Kutus is not a typical case, since most input supply and all the marketing of the major commodity is undertaken by the coffee union through factories located in the surrounding rural areas. Nevertheless, the town functions as a major

regional market for other agricultural produce from its own hinterland and further afield.

Second, the town raises agricultural productivity by providing an alternative source of income for farmers. Evidence from Kutus suggests there is a connection between sources of income and farm household decisions affecting farm production. Higher income farm households have substantial earnings from sources other than farming, and also derive higher earnings from agricultural production, due among things to more intensive use of inputs, a shift away from staples to higher value cash crops, and the sale of a higher proportion of staples. In other words, by providing opportunities for farm households to spread risk among a diversity of activities, small towns can indirectly contribute to raising agricultural productivity.

This has important implications for agricultural policies designed to promote the wider use of modern production inputs and a shift to higher value crops, which warrants further research.

3. The government's objective of encouraging a broad spectrum of small-scale, nonfarm activities in small towns is feasible and sound.

The Kutus case provides impressive evidence that small towns can stimulate the growth of a wide range of small-scale nonfarm activities. Since 1975, the number of town businesses - excluding market traders and transport activities - has increased fourfold, and in the three year period preceding the survey, approximately 140 new businesses were established creating more than 250 new jobs. The small-scale nature of these activities is underlined by the small number of employees, an average of 1.47 per business, and the relatively small amounts of capital used to get started, generally under KSh. 10,000.

Three points need stressing, however. First, these nonfarm activities, particularly commercial activities, generate substantial income for rural households through demand for farm produce, through wages to employees from farm households, and through profits to owners from farm households.

Second, nearly every one of these businesses caters to local demand, and their proliferation is another manifestation of the strong multiplication effects associated with farm household revenues derived from coffee. Small towns, therefore, are unlikely to be suitable locations for larger firms, especially industrial plants, serving larger regional or national markets.

Third, small-scale manufacturing activities generate little demand for intermediate farm outputs: most of their inputs come directly or indirectly from other firms in the manufacturing sector, chiefly outside the region. Thus, efforts to promote manufacturing in small towns should be oriented to fostering town employment and enterprise opportunities, not as a means of spurring agricultural development.

4. The expectation underlying rural-urban policy that small towns can absorb rural population is correct.

The Kutus case provides dramatic evidence that under the right conditions a small town can attract significant numbers of in-migrants, even from quite far afield. According to the survey of town households, 92 percent of the heads of Kutus households had moved into the town from some other place. More than a third of the in-migrants previously lived elsewhere in Kirinyaga District, and a little less than a half in surrounding districts, but more than a quarter have come from more distant locations.

5. Price controls and associated procedures and regulations on certain agricultural commodities generate effects that run counter to the objectives of rural-urban balance.

A single fixed price for an agricultural commodity acts as both an incentive and a disincentive to farmers. As a floor price, it encourages a producer to enter the market by providing a minimum guarantee of return, but as a ceiling it acts as a disincentive to greater investment in that it removes opportunities for the producer to take advantage of favorable market conditions. To the extent that a fixed price reduces revenue that might otherwise have accrued under free market conditions, such policies effectively diminish farm household incomes and serve to depress production. The movement and trading restrictions that accompany price controls also remove competitive trading incentives and trade options for farmers. Expanded trading activity would likely reduce the relatively large trader margins associated with maize, which were discussed in Chapter IV, and increase producer prices. In the case of the Kutus area, traders who normally buy produce for delivery to the NCPB are occasionally forced to suspend purchases because of NCPB payment delays. Demand then weakens and farmers are forced to sell at lower prices to small traders in the marketplace who sell only for local consumption.

Thus, in the study area, the incentives of market opportunities are removed for maize farmers on the one hand, and the benefits of a minimum price guarantee for maize production are undermined on the other. Farm income and production, rural-urban trade, and local income multiplication are all depressed, counter to rural-urban balance objectives.

6. Import quotas and price controls on farm inputs generate effects that run counter to the objectives of rural-urban balance.

Improving access to farm inputs is not merely a function of physical access but also availability and price. Among Kutus farmers, the survey recorded widespread complaints about inputs not being available when needed. This was traced in part to import restrictions and price controls on farm inputs that limit supply and curb potential profits for private traders, reducing their incentives to stock them. Improved availability of farm inputs would result in higher productivity and increased rural-urban trade and income multiplication in line with rural-urban balance objectives. In other small towns, where no cooperatives or other government agencies are distributing controlled inputs, availability is likely to be an even more serious problem.

7. Policies designed to promote large-scale industries that do so at the expense of small-scale ones run counter to the objectives of rural-urban balance.

In Kutus, the number of posho mills has declined in recent years, apparently due to government policy restricting local milling in order to promote large scale plants in big cities. Especially in light of the relative scarcity of capital and abundance of labor, such policies run counter to the objective of rural-urban balance to create nonfarm job opportunities. If large plants cannot be viable except by restricting small ones, it is an indication that they represent an inefficient use of resources. Small-scale plants catering to local markets, particularly those that make use of farm produce, help to multiply income within the region and strengthen local agriculture.

LESSONS FOR THE RTPC PROGRAMME

Regarding RTPC selection:

8. RTPCs should be located in areas with reasonably good agricultural potential.

The dynamic growth of Kutus in recent years is largely attributable to production of coffee, which generates substantial revenues from outside the region. Some 80 percent of revenues from farming are derived from coffee, representing about 40 percent of total farm household income. Small towns serving rural areas that benefit from strong demand for their produce from outside the region are more likely to succeed in generating nonfarm jobs and attracting rural migrants. Without the stimulus of outside demand, growth will be weak and there is little chance of achieving the objectives of rural-urban balance.

9. RTPCs must be reasonably accessible from larger towns or regional centers.

Part of the reason for the success of Kutus as a small town is that it is closely linked to several larger towns nearby and is accessible from Nairobi. Good access is crucial if a small town is to serve as an effective market center for supplying major urban centers of consumption directly, for functioning as a supplier to regional centers acting as forwarding point to larger urban centers, and for distributing goods produced in larger cities to the hinterland.

10. There must be, or be the potential for, a critical mass of agricultural production and farm population within an area of relatively easy access to the RTPC and in which the RTPC has a comparative advantage as a trade center.

Another part of the reason for the success of Kutus as a rural center is that within a seven-kilometer radius is an area of relatively dense agricultural production and a rural population that is nine times its own population. In the nearby vicinity there are rural shopping centers, a town that is an administrative center, and other smaller towns, all of which have their roles, but none of which even approach the comparative advantages of Kutus as a trade

center. In the case of other RTPCs, some of these features can be provided through the RTPC Programme: for example, improved connections with a larger hinterland can to some degree substitute for nearby density of agricultural production and rural population. But it must be recognized that there are small towns that do not have and cannot be provided with the necessary endowments, or simply lack the comparative advantage as against other nearby towns, to become successful trade and production centers.

Regarding RTPC research needs:

11. Determination of RTPC investments should be supported by research on local linkages between the small town and its hinterland.

Since the investments to be made under the RTPC Programme represent relatively large sums for the areas concerned, it is important that they be supported by appropriate research. Experience from Kutus suggests that valuable insights can be gained from research on the principal characteristics of the local economy, the nature of exchange mechanisms between agriculture and nonfarm activities, and the income multiplication effects of local production. Given the special focus on rural-urban exchange, much of the information required is unlikely to be found in conventional sources, and will require original data collection from the field.

12. RTPC research should explore ways of increasing agricultural production as well as multiplying this income in the local area.

Analysis of the Kutus case reveals that although agriculture is the driving force behind local economic growth, more than half of all household income in the region is derived from nonfarm sources, most of it associated with local consumption expenditures. This strongly suggests that in formulating proposals for RTPC packages special attention should be paid to exploring ways of capturing larger shares of local spending and converting a higher proportion of agricultural revenues into profits and jobs in nonfarm activities. This means examining patterns of local consumer spending including the origin of goods and services purchased.

13. RTPC research should examine linkages between the RTPC and larger towns and regional centers.

Of particular interest are forward links from local agriculture, both for final consumption and for industry. In the Kutus case, these were not explicitly examined, although it appears the principal links with industry are to Nairobi, where maize is milled and where coffee is processed for national consumption and for export abroad. Experience from other countries shows that as an economy advances, the development of agriculture is increasingly driven by demand for intermediate farm outputs used by agro-processing industries. In Kenya today, these links are not widespread, but they can be expected to expand in the future.

Regarding RTPC interventions:

14. Good access between the RTPC and farms in its hinterland is essential for RTPC success.

The high volume of market activity in Kutus, and the rapid growth of nonfarm businesses there, is partly due to the relatively good access it has to producers and consumers in its hinterland. Improved access allows a small town to function more effectively as a bulking and collection point for agricultural produce by reducing the time and money farmers spend on transporting their goods to market. Improved access also stimulates the growth of nonfarm business by expanding the effective catchment area of potential customers for the town's goods and services. In designing RTPC investment packages, special attention should therefore be paid to farm-to-market roads linking producers and consumers to the small town.

15. Facilitating trade and commercial exchange within the RTPC through supportive infrastructure is a high priority.

In the Kutus case, commerce and trade accounts for a large part of nonfarm activity, providing employment to many. Much of this activity is associated with marketing and retailing food, which represents nearly half of all household spending. This suggests that special consideration should be given to facilitating these activities. Among the options that might be examined are infrastructure such as water, power, marketplace improvements, storage facilities, areas for loading and unloading produce, and even street lighting to improve security at night for retail premises. Moreover, the objective of raising revenues for local authorities through fees and licenses needs to be carefully balanced against the goal of facilitating commercial activity.

16. The order of growth potential for sectors within RTPCS appears to be commerce, services, industry. However, there is potential for very small scale operations in all sectors, and facilitating such operations will enable the unique hidden economic growth opportunities of each RTPC to emerge over time in response to market demand.

About half the town businesses surveyed in Kutus are commercial in nature, and commerce appears to be the sector of greatest strength and growth potential. But all sectors have been experiencing healthy growth in recent years, and there has been especially rapid growth among very small enterprises. Among the highest priorities for RTPC investments should be those that ease market entry and establish favorable environments for small enterprises.

17. Interventions should not be restricted to physical infrastructure: technical assistance, training, financial services, and local administrative and regulatory reform, sometimes at locations other than the RTPC, may be just as important.

As suggested in the concluding sections of Chapters III and IV and in Chapter V, as well as in earlier discussions in this chapter, many of the opportunities for enhancing rural-urban exchange and accelerating economic growth in the Kutus area are believed to be in the realms of managerial and procedural

improvements, including some in Sagana, institutional innovations, training, financial services, and even policy reform beyond the scope of local interventions. In addition, local authority rules and regulations affecting business, the levels of fees and licenses, and other attributes of local administration have an enormous effect on the entrepreneurial options of area households. All these determine the efficacy of infrastructure investments, and should not be precluded from the scope of RTPC investments.

APPENDIX A

SAMPLING METHODOLOGY

The formal survey instrument used in this study consists of four modules: farm households, town households, town businesses, and market activities. The survey instrument is contained in Appendix B. The sampling methodology for each module is described below.

A. Farm Households

For purposes of the research, a random sample of farm households living in the study area would have been ideal. A listing of all farm households in the area from which to draw such a sample, however, does not exist and developing one was out of the question due to limitations on resources. A random sample of land parcels in the area proved to be the next best option. The land registry, from the District Office of Lands and Settlements, was used to develop a listing of all parcels of land in the study area. Parcels on the derived list numbered 6,790. Parcels listed with the land registry include both privately and publicly held land and also parcels that have been closed due to subdivision. As parcels were selected, if the land proved to be government-owned or closed the parcel was discarded. The end result was a random sample of 150 parcels and their respective (private) owners.

Occasionally, farm families in the study area own more than one parcel of land, so households with multiple parcels were more likely to be chosen in the sample than households with just one piece of land. This has the potential to interfere with the ability to generalize from the sample about households. Tests for bias proved negative however, and therefore generalization from the sample to all households in the region is permissible.

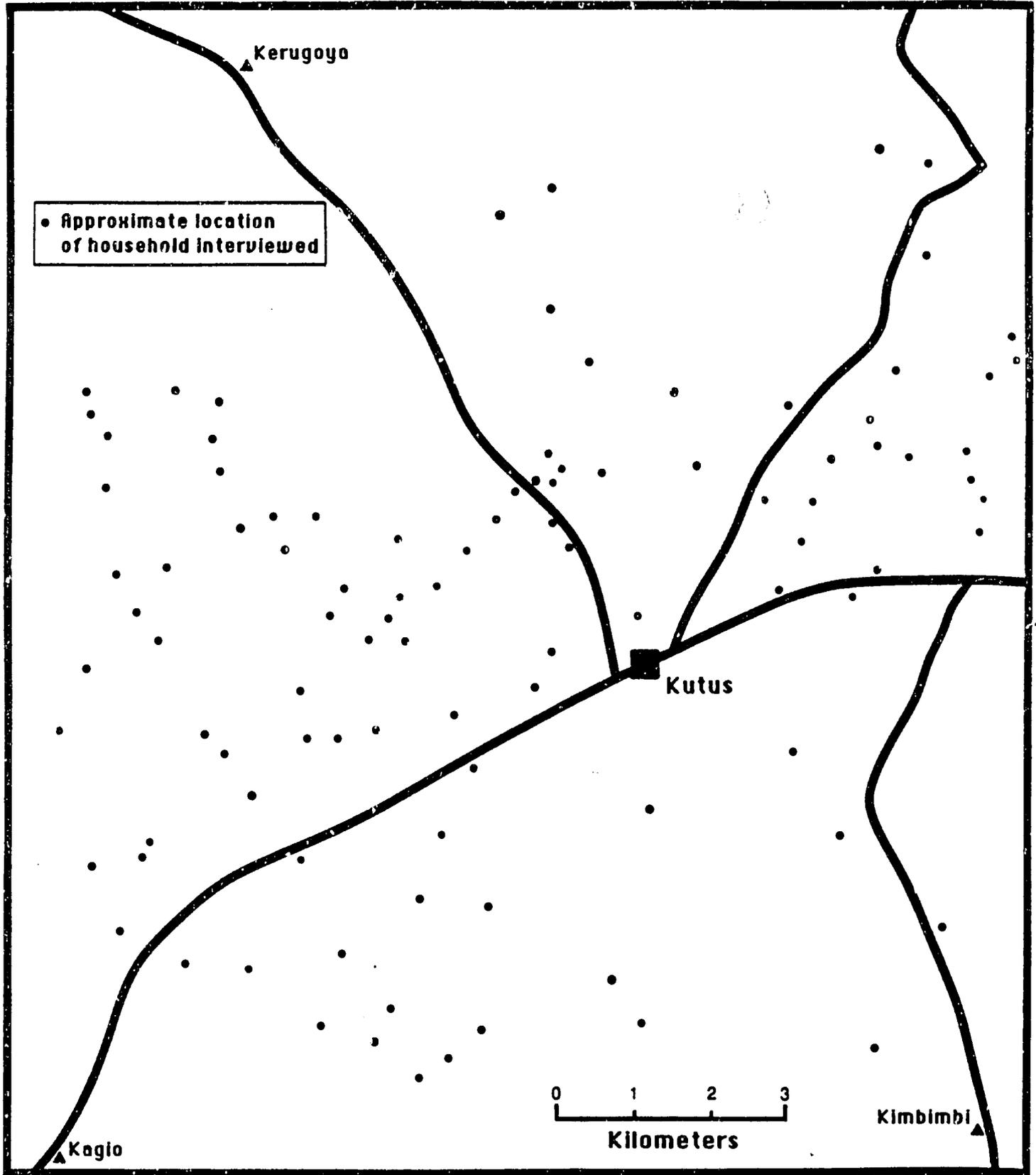
Of the 150 owner-parcels interviews were conducted for 111. The 39 remaining were found to be one of the following: nonexistent; parcels of land without residences, either being owned by businesses or by private individuals living elsewhere; or established households that were unavailable for interviewing. The location of interviewed households appears on the following map.

An estimate of the number of households living in the study area is desirable for obvious reasons. A sample from the listing of land parcels showed that approximately 33 percent were either publicly owned, closed, owned by households with more than one parcel, or owned by concerns living elsewhere. Given 6,790 parcels in the study area it is estimated that the study region contains 4527 farm households.

B. Town Households

A simple random sample of households from the population of town households in Kutus was drawn. A count of households in the town revealed 1,294 such residences. The households were numbered, and a random sample of 55 was generated.

Kutus Study Area: FARM HOUSEHOLD SURVEY SAMPLE



Of the sample 55, three proved impossible to track down and we were left with 52 town household interviews in the sample.

C. Town Businesses

A random sample of fixed town businesses was developed for the town business module. In total, 78 businesses were selected from a population of 377 and all were eventually interviewed. Strictly speaking, since the population was not stratified by sector of production or by location, one should not make generalizations about sector or place-specific activities based on our sample, but only about the set of Kutus businesses. Such generalization is inevitable in a study such as this, however and, with the above general caveat in mind, we feel warranted.

D. Market Activities

The population of market activities in Kutus town was stratified into categories of food, nonfood, and transportation. There are approximately 502 food traders, 370 nonfood traders, and 273 transport operators. From the above population, samples of 28 food traders, 20 nonfood traders and, 15 transport operators were generated. A total of 63 interviews were conducted. Since the samples were generated on site, at the marketplace, randomness was, strictly speaking, only approximated.

APPENDIX B

SURVEY QUESTIONNAIRE

KENYA

RIPC- BASELINE STUDY

KUTUS SURVEY INSTRUMENTS

		SUBJECTS			
		Farm HH	Town HH	Town Business/SSE	Market Traders/Artisans
M	1. Household Roster	X	X		
	2. Household Consumption	X	X		
O	3. Farm Production	X	X		
D	4. Non-Farm Production	X	X	X	
U	5. Other Financial Information	X	X		
L	6. Market Survey				X

S

REPUBLIC OF KENYA
 MINISTRY OF PLANNING AND NATIONAL DEVELOPMENT
 RURAL-URBAN PLANNING SECTION
 RURAL TRADE AND PRODUCTION CENTRES
 BASELINE STUDY IN KUTUS -KIRINYAGA

11. Questionnaire Number

--	--	--	--

12. Enumerator Number

--	--	--	--

13. Date: D/M/Y

--	--	--	--

14. Sublocation/Town code

--	--	--	--

15. Name of main respondent

--

15. Map location ID

--	--	--	--

17. Module Code

FHM	THH	TRU	MS
101	02	03	04

SECTION 1: HOUSEHOLD ROSTER - Demography/ Education/ Mobility

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
List all members of the household and any persons who spent the last night here:	Residence status:	Sex:	Relation to head of household:	Age in years:	Ethnicity:	Education level (grade completed):	Birth date (month/year):	Division (District):	Place of residence (previous):	Division (District):	Was present in previous residence (y/n):	Reason for moving here:	How long lived here (years):
1.	:	:	:	:	:	:	:	:	:	:	:	:	:
2.	:	:	:	:	:	:	:	:	:	:	:	:	:
3.	:	:	:	:	:	:	:	:	:	:	:	:	:
4.	:	:	:	:	:	:	:	:	:	:	:	:	:
5.	:	:	:	:	:	:	:	:	:	:	:	:	:
6.	:	:	:	:	:	:	:	:	:	:	:	:	:
7.	:	:	:	:	:	:	:	:	:	:	:	:	:
8.	:	:	:	:	:	:	:	:	:	:	:	:	:
9.	:	:	:	:	:	:	:	:	:	:	:	:	:
10.	:	:	:	:	:	:	:	:	:	:	:	:	:
11.	:	:	:	:	:	:	:	:	:	:	:	:	:
12.	:	:	:	:	:	:	:	:	:	:	:	:	:
13.	:	:	:	:	:	:	:	:	:	:	:	:	:
14.	:	:	:	:	:	:	:	:	:	:	:	:	:

- | | | |
|--|--------------------------------------|--------------------------------------|
| <u>Resident status</u> | <u>Relation To Head of Household</u> | <u>Ethnicity</u> |
| 1. Member usually residing at household | 1. Head | 1. Kituyu |
| 2. Member away working | 2. Wife/husband | 2. Luo |
| 3. Member away at school | 3. Son/daughter | 3. Luhya |
| 4. Member of family living in a land elsewhere | 4. Father/mother | 4. Meru |
| 5. Visitor | 5. Sister/brother | 5. Embu |
| 6. Servant | 6. Niece/nephew | 6. Kamba |
| | 7. Son/daughter in law | |
| | 8. Sister/brother in law | |
| | 9. Father/mother in law | |
| | 10. Grand son/daughter | |
| | 11. Other relative | 7. Kalenjin |
| | 12. Servant | 8. other (sp.) |
| | 13. Tenant | |
| | 14. Not related | |
| | <u>Formal Education</u> | <u>Reason for changing residence</u> |
| | 1. None | 1. Land |
| | 2. Std 1-4 | 2. Employment |
| | 3. Std 5-8 | 3. Marriage/family |
| | | 4. Other (sp.) |
| | 4. Form 1-4 | |
| | 5. Form 5-6 | |
| | 6. University | |

15. What is the usual household size (number of people) per year ?.....

SECTION 2: CONSUMPTION IN RURAL AND URBAN HOUSEHOLDS (A) FOOD.

1.	2.	3.	4.	5.	6.	7.	8.
Which food items were consumed by the household at any time in the past month	How much was consumed yesterday	Was this item purchased based on Y/N	Was it purchased from a local market (status region)	How far was it purchased (km)	If it was purchased locally was it produced locally	What is the price of this food item in the market now	What proportion of this food item consumed by this HH in a year is home produced
1. Maize							
2. Beans							
3. Rice							
4. Potatoes							
5. Tomatoes							
6. Egg							
7. Wheat (flour)							
8. Sorghum							
9. Millet							
10. Beverage							
11. Vegetables							
12. Milk							
13. Meat							
14. Eggs							
15. Bananas							
16. Chicken							
17. oils/fat							
18. salt							
19. sugar							
20. Other							

9. What market centers do you usually purchase the above food items ?

Market	Distance (km)
a.
b.
c.

10. Were there times in the past one year when you could not get to the markets ?
Yes (1) No (2) > i2

11. Why was it not possible and what time of the year was it ?
why when (month/season)

- Roads impassable
- Lack of transport
- Other (sp.)

CONSUMPTION: (E) HOUSING AND UTILITIES .

12. What houses does this household occupy ?

	a.	b.	c.	d.	e.	
Dwelling/ Building	Purpose	Approx. floor space	Year built	Main materials used: wall: floor: roof		
1. (Main)						
2.						
3.						
4.						
5.						
6.						
7.						

Purpose of building

- Dwelling of head of household
- Daughter's dwelling
- Son's dwelling
- Wife's dwelling
- Other (sp.)

Main materials used

- Wall = 1 brick 2 stone
3 earth 4 timber
5 poles 6 other (sp.)
- Floor = 1 earth 2 cement
3 other (sp.)
- Roof = 1 grass 2 tiles
3 iron sheets
4 other (sp.)

13. What other building structures does this household use ?

	a.	b.	c.	d.	e.
Other building structures (by purpose)	Number of bui- ldings	Year built	Main materials used: wall: floor: roof		
1.					
2.					
3.					
4.					

Other building structures

- Stores
- Cow sheds
- Kitchen
- Other (sp.)

14. Is your dwelling place owned or rented ? 1. owned 2. rented >20
15. Do you make mortgage payments on the dwelling ? 1. yes
2. no >19
16. How much was your last payment ? Ksh.
17. To whom is the mortgage paid ? 1. bank 2. other (sp.)....
18. Where is the mortgage paid ? 1. Local enterprise
2. Outside enterprise
19. If you had to put up this dwelling how much would it cost you ? Ksh. >23
20. How much does the household pay in rent for this dwelling ? Ksh. per month
21. What is the source of payment for the rent ?
1. from household earnings
2. from relatives/friends
3. from employer
4. other (sp.).....
22. Where does the landlord/owner reside ?
1. in the local area (rural)
2. in the local town
3. outside hutus area (sp.).....
23. What is the source of drinking water for your household ?
1. indoor tap (individual)
2. water vendor
3. outside tap (communal)
4. river/well >27
5. other (sp.).....
24. Who pays for your water ? 1. Household
2. landlord >27
3. other (sp.)
25. How much was your household's last water bill ? Ksh
26. What amount of time was covered by that bill ? days.

27. How far is the water supply source from your dwelling ? Km.
28. Do you use paraffin ? Yes 1 No 2 > 30
29. How much do you spend for it per month ? ksh.
30. Do you use electricity ? Yes 1 No 2
31. How much is spent for it per month ? ksh.
32. Do you use gas ? Yes 1 No 2
33. How much is spent for it per month ?
34. Do you use wood ? Yes 1 No 2
35. How much is spent for it per month ?
36. Where do you get wood ? 1. forest
2. own farm 3. market
37. How far do you travel to get wood ? km.
38. Do you use charcoal ? Yes 1 No 2
39. How much do you spend for it per month ? Ksh.
40. Where do you get charcoal ? 1. market
2. home made 3. other (sp.).....
41. How far do you travel to get charcoal km.
42. Do you use sawdust ? Yes 1 No 2
43. How much do you spend for it per month? Ksh.
44. Do you use telephone ? Yes 1 No 2
45. How much do you spend for it per month ? Ksh.

CONSUMPTION: (C) EDUCATION /HEALTH/ OTHER EXPENSES:

46. How much has this household spent on education in the past 12 months ?

a.		b.	
Expenditure on:	Amount	Expenditure on:	Amount
	Ksh.		Ksh.
1. Uniforms			
2. Tuition/ fees			
3. Building fund			
4. Stationary & books			
5. Pocket money			
6. Other (sp.)			
Total			

47. How much has this household spent on health services in the past 12 months ?

Type of service	Amount (Ksh.)
1. Medicine
2. Doctors fee etc
3. Other (sp.).....
Total

48. How far is the most frequently used health facility from this household ? Km
49. How far is the main primary school attended by the children of this household ?
50. How far is the main bus/Matatu station used by this household ? Km.

51. How much has this household spent on transportation for the following in the past one month ?

a. WorkKsh. b. School..... Ksh.
c. Hospitalksh. d. Other (sp.)..ksh.

NB: [exclude fare related transportation]

52. How much has the household spent on the following other expenses in the past one month?
- a. Home maintenance products (detergents e.g. Dno, insecticides, bromas etc.) Ksh.
- b. Personal care products (toothpaste, oil, soap) Ksh.

53.

a.	b.	c.	d.
Has the household spent money on the following items over the past year	How much did this household spend	Where was the item purchased	Is the item produced in Kutus region
Y/N			
1. Shoes and clothing			
2. Watches/ jewelry			
3. Repairs of vehicles etc. (i.e. inputs)			
4. Furniture			
5. Kitchen utensils			
6. Loan repayment (personal)			
7. House servants (for town HH only)			
8. Gifts/Marambee			

- Where [] was purchased
- a. within Kutus region
- b. outside Kutus region in this district
- c. elsewhere in Kenya
- d. imported

54. INVENTORY OF DURABLE GOODS

a.	b.	c.	d.	e.
Does the household have these items	Y/N	How many?	Buy-ling price	Where was the item purchased (sp.).....
1. Gas stove				
2. Refrigerators				
3. Radios				
4. Fans				
5. Cameras				
6. Television set				
7. Bicycle				
8. Motor cycle				
9. Cars/other vehicles				
10. Others (sp.)				

(D) REMITTANCES: FROM HH MEMBERS

55. During the past 12 months has any member of this household sent money or goods to any relatives and friends living away? 1 Yes 2. No 59
56. How much money or money worth of goods Ksh. have you send in the past 12 months?
57. What is the relationship of the person who received the money, to the head of household? 1. husband/wife 2. child 3. other sp.

58. Where does the person live?
Place Distance

RECEIVED BY HH MEMBERS

59. How much income did members of your household get from remittances?

a.	b.	c.	d.
Member of household who has received any remittance during the past 12 months	How much money or money worth of goods was received from relatives or friends in the past 12 months	What is the relationship with the person who gave the greatest amount	Where does the person who sent remittance stay (sp.)
1.			
2.			
3.			
4.			
5.			

Relationship:

1. Father/mother
2. Brother/sister
3. Son/daughter
4. In-law
5. Other (sp.)

Where (area)

1. within kutus area
2. outside kutus area within this district
3. Outside this district in Kenya
4. Outside Kenya

60 Are there any members of the household without work but looking for work? yes 1, no 2

61 a Name (member number) 1. b length of time unemployed 1.

SECTION 3. FARM PRODUCTION I. (1) LAND

1. During the past 12 months has this household worked farms or fields of its own or rented? Section 4
 Yes 1 No 2 >

--

2. How many hectares of land (including that rented and on fallow) has the household used during the past 12 months? [Fill below]

LAND OWNED BY THE HOUSEHOLD (Indicate hectares or acres: 1 hectare = 2.47 acres)

Total Land owned	Land that is within 10 Km. of Kutus			Land outside Kutus region in this district			Land owned elsewhere (outside this district)		
	i.	ii.	iii.	i.	ii.	iii.	i.	ii.	iii.
	Total size of this owned land	Size of that land which is titled or adjudicated	Size of that land which is fallow	Size (all)	Size titled	Size fallow	Size (all)	Size titled	Size fallow
Individually									
Jointly									

LAND RENTED BY THE HOUSEHOLD

Total land rented by Household	The size of that land within 10 km. of Kutus (all ha.)		The size of that land outside Kutus region within this district (all) ha.		The size of that land elsewhere outside this district (all) ha.	
	ksh.	Fallow	ksh.	Fallow	ksh.	Fallow

3. Has this household leased out or rented out land during the past 12 months?

Yes 1 No 2 >

--

Within Kutus region
Outside Kutus region

Size	Price

4. Have members of the household sold any land during the past 12 months ?
If No >7

	Size	Price
Within Kutus region		
Outside Kutus region		

5. For what purposes was the above land sold ?
a. land unproductive
c. raise money to support farming
e. debtiness

b. raise money for fees, home use
d. raise money for town business
f. other (sp.).....

6. Where did the buyer come from ? (for land within Kutus)

1. same division (rural)
2. same division (town)
3. different division same district (rural)

4. different division same district (town)
5. Other (sp.).....

7. Where is the person who sold the land residing now ?

1. on the remaining land
2. on a land of a relative
3. on a new land elsewhere
4. in town (sp.).....

8. For how much could you sell land exactly like that used by your household during the past 12 months ?

9. Has any member of your household bought land over the past 12 months ? yes 1 No 2 > 11

	Within kutus area	Outside kutus in this district	Outside this district
Size of land bought			
Price Ksh.			

10. Is the purchased land contiguous with a presently owned plot ? Yes 1 No 2

11. Has any member of your household tried to buy or lease land but was unable ? Yes 1 No 2 >13

12. Why was she/he unable to purchase the land ?

- a. Land unavailable
- b. Price was not affordable
- c. Was too far from present owned land
- d. Other (sp.).....

13. If the household leaves some land fallow why does it do so ?

- a. insufficient labor
- b. insufficient capital
- c. to conserve quality
- d. other (sp.).....

[2] CROPS		----- for yield from land within Kutus region ----->												
14.	a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	
	How many members of household grown the following crops during the past 12 months? (circle)	How many grown on the following land	How much obtained (yield)	How much harvest has been sold	How much of (d) has been sold	For how long (e) was kept	How much of (d) was harvest	How much of the other crop do you use?	Which other crop (e) did you sell?	Where was the crop (e) sold?	To whom did you sell?	At what price did you sell?	How far did you travel to sell?	
	Y/N /	Kutus /	area /	region /	volume /	value /	Ksh. /	crop /	this /	codes /	part /	kg /	kg /	
1.	coffee													
2.	tea													
3.	maize													
4.	tomatoes													
5.	beans													
6.	bananas													
7.	cotton													
8.	tobacco													
9.	sugar cane													
10.	French beans													
11.	potatoes													
12.	rice													
13.	fruit trees													
14.	peas													
15.	vegetables													
16.	wheat													
17.	Sorghum													
18.	Other (sp.)													

To whom sold: a. local market b. trader in town c. Co-op society d. crop board e. other (sp.)

15. What was the main means of transport you used to transport your product to the market ? during the past 12 months ?

	Means of transport	Approx. total cost
Coffee
Maize
Tomatoes
Other crops

16. Which of the above crops would you like to expand production ? Codes:
17. What prevents you from expanding production of the above crops ?
- a. lack of land
 - b. inadequate transportation
 - c. lack of labor
 - d. lack of capital
 - e. poor crop prices
 - f. delays in payment
18. Was there time in the past year when you were unable to get your crops to the market ? Yes 1 No 2
19. Why were you unable to market your crops ?
- a. road impassable
 - b. lack of transport
 - c. delays in obtaining transport/market permit
 - d. other (sp.).....
20. Has any member of the household received any training or attended courses in farm production Yes 1 No 2

[3] INPUTS:

21. Has your household bought seeds/seedlings during the past 12 months ? Yes 1 No 2

22. >23

a.	b.	c.	
For which crops did you buy seeds/seedling	How much was spent on seeds for the last 12 months	Where did you get the seeds or plants (sp.)	Distance
		Place	Ince
1.			
2.			
3.			
4.			
5.			

where () was bought. NB. Use where codes

From whom was () bought

- a. private traders within Kutus
- b. Farmers Co-op
- c. KGGCU
- d. private trader outside Kutus
- e. home made
- f. other (sp.)...

23. Has your household used fertilizer during the past 12 months ? Yes 1 No 2 > 25

24. What types and amount of fertilizer were used ?

Type of fertilizer	where produced	Amount bought kg	Ksh	Proportion used for coffee	maize	tomatoes	Other crops	From whom it was bought
.....
.....
.....

where produced: a. in the country b. imported

25. Has your household used manure/compost during the past 12 months? Yes 1 No 2 >27

29. Has your household used pesticides/fungicides during the past 12 months? Yes 1 No 2 >31

26.

a.	b.	c.
How much manure was used in all weight/value	What proportion of the manure was used for:	From whom was the manure bought
	coffee	
	maize	
	tomatoes	
	other crops	

30.

a.	b.	c.	d.	e.
Type of pesticide/fungicide bought	How much was spent to buy (a) Vol Ksh.	What proportion of the pesticide/fungicide was used on:	From whom was (a) bought	Where is (a) produced
		coffee		a. Kenya
		maize		b. Imported
		tomatoes		
		other (sp.)....		

From whom was manure/pesticide/fungicide bought

- a. private trader within kutus
- b. farmers co-operative
- c. KGGCU
- d. private trader outside Kutus
- e. home made
- f. other (sp.).....

27. Has your household used herbicide during the past 12 months? Yes 1 No 2 >29

28. How much was spend on it?

Type	Amount	Cost
.....
.....
.....

31. Has your household bought sacks, ropes or containers during the past 12 months? Yes 1 No 2 > 34

32. How much was spent for the above items in the past 12 months? Ksh.

33. Where were the above items bought?

Place Distance

34. Over the past 12 months how much have you spent on transportation in purchasing the above inputs (seeds/seedlings, fertilizer, pesticides, manure sacks, ropes and containers etc.) Ksh.

35. Has your household had expenses on storage over the past 12 months ?
 1. Yes 2. No >39

36. What was the cost of storing all your crops in the past 12 months ? (incl. cost of insecticide and pesticide) Sh.
 37. What proportion of that cost was for coffee..... maize..... tomatoes..... all other crops.....

38. Has your household had expenses on labor during the past 12 months ? 1. Yes 2. No >46 Ksh.

39. How much money all together was spent on labor in the past 12 months (including part-time labor) ?

	a.	b.	c.	d.
	Number of workers	How many were relatives	How many were from Kutus region	Wage per month/day
Full time workers				
Part time workers				

46. During the past 12 months have you had any problems obtaining farm inputs (labor, seeds, fertilizer manure, etc) ? Yes 1 No 2 >48

47. What problems have you had ?
 a. unavailable locally (sp.)
 b. couldn't afford
 c. lack of transport
 d. other (sp.).....

48. During the past 12 months has there been a time when any of your farm machines lay idle for lack of
 a. repair service Y/N
 b. spare parts Y/N (circle)

41. What proportions of the above total labor cost went to producing coffee maize..... tomatoes..... all other crops.....

42. How many unpaid persons (family and non-family members) were usually doing farm work in the past 12 months ?

43. How much did your household spend on the following farm expenses in the past 12 months?
- a. Renting of animals Ksh.
 - b. Irrigation charges Ksh.
 - c. Fuel oil Ksh.
 - d. Electricity Ksh.
 - e. Renting machinery Ksh.
 - f. Repairs Ksh.
 - g. Other (sp.) Ksh.

49. During the past 12 months was there a time when you needed the assistance of an extension agent but could not get one ?
 Yes 1 No 2 >51

50. Why could you not get the assistance?
 a. there wasn't one available
 b. poor transport
 c. other (sp.).....

44. How many times did your household get farming advice from extension agents in the past 12 months ?

45. For which crops did you get advice from an extension officer ?
 a. b. c. d.

51. Has any member of your household processed any of his/her crops for sale during the past 12 months? For example (maize meal, tobacco, brewing) Yes 1
 No 2 > 53

52.	a.	b.	c.	d.
	What crop/ products/ commodities made	How much did you earn from all your years sale of []	Where was the product sold [] sold [] Place	How much money was spent on processing [] Dist- [] Ince
11.				
12.				
13.				
14.				

53. Has any member of your household raised livestock or poultry during the past 12 months?
 1. Yes 2. No > 60

54.	a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
	Animals/ poultry raised during the past 12 months	How many you now own	Estimated value of stock today	How many were sold during past 12 months	Total money received from the sale	Where were the [] sold [] Place Ince	How many [] were bought []	Price paid for all	Where were [] bought []	How many [] were received [] as gift []	How many [] were eaten [] or given free	
11.	Cattle											
12.	Sheep											
13.	Goats											
14.	Chicken											
15.	Pigs											
16.	Donkeys											
17.	Other (sp.)											
											

Where was livestock bought/ sold.
 a. within Kutus region b. outside Kutus in this district c. outside this district.

55. During the past 12 months have any members of your household sold any product from their animals such as milk?
 1. Yes 2. No

56.	a.	b.	c.	d.
Have you sold	How much was sold (volume)	Value of amount sold	Where was sold (Place)	Distance trans- port cost
1. Milk				
2. Cheese				
3. Eggs				
4. hides				
5. Other				

Where product was sold.

- a. within Kutus region (15 km.)
- b. outside Kutus in this district
- c. outside this district (sp.).....

57. How many times has your household got advice from a livestock agent during the past 12 months?

58. Has any members of the household spent money on the following items in the past 12 months? Yes 1 No 2 >60

59.	a.	b.	c.	d.
Items bought	Y/N	How much money spent	Was from Kutus	Y/N
1. Building and maintenance of fences/sheds				
2. Animal feed/salt				
3. Veterinary service + medicine bought in the market/town				
4. Other (sp.)....				

60. How many of the following tools are owned by your household?

- 1. hoes (jembe)
- 2. pangas
- 3. shovels
- 4. axes
- 5. sickles
- 6. chains
- 7. wheelborrow
- 8. boxes
- 9. other (sp.)

61. What Equipment owned/rented out/rented by members of the household during the past 12 months ?

	a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Equipment:	How many are owned: Y/N	Value of all these today	Where did you buy the ones you bought in the past 12 months (location)	How far away did you buy them	Have you rented out any of these in the past 12 months	How much was paid by who/ver	Did you rent any of these in the past 12 months	How much was paid to rent	For how long did you rent the equipment	
1. Tractors										
2. Ploughs										
3. Carts										
4. Tanks (retal)										
5. Sprayers										
6. Vehicles										
7. Oxen										
8. Other (sp.)										

62. Which of the above equipment were used for the farming of :
 coffee maize tomatoes other crops

63. During the past 12 months have you been unable to purchase or rent any of the above equipment as you needed ? Yes 1 No 2 > Section 4: (Farm)

64. Why were you unable ? a. Unavailable at the local market
 b. Lack of transport
 c. Lack of money
 d. Other (sp.)

SECTION 4: (FARM-BASED) NON-FARM ECONOMIC ACTIVITIES.

1. Does any member of your household carry out any of the following non-farm enterprises at the farm? (circle as appropriate)
- 1. brick making 2. basket making 3. quarrying 4. carpentry 5. pottery
 - 6. kiosk/retail 7. welding/blacksmith 8. barber/saloon 9. tailoring/knitting 10. posho milling
 - 11. herbalist 12. midwife service 13. entertainment 14. painter/decorator 15. shoeshine/repair
 - 16. charcoal making/sale 17. wood carving 18. masonry/construction 19. tobacco products
 - 20. photography 21. beer brewing 22. other (sp.).....

2. Profile of main enterprises done.

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.
Main non-farm activities at the farm (as above)	Does this business occupy a fixed structure	Does this business occupy a structure	What are the main goods/services sold or produced (names)	Where was the business learnt	Does it operate throughout the year (sp.)	Do you require a licence to do this business	How much capital do you have to start this business	What are the total sales of this business per month	Value of any goods consumed by your HH in a month	In general to whom do you sell goods of this business
11.		Y/N								
12.										
13.										
14.										
15.										
16.										
17.										

Business type:

- a. commerce : retail, wholesale
- b. industrial: manufacture -metal/electrical/chemical
- c. industrial: manufacture-agro- forestry/ processing
- d. services : restaurants, garages, transport, repairs, medical, entertainment

Where business skill was learnt

- a. home from parents b. school c. apprenticeship away from home d. other (sp.)

To whom your products are sold

- a. Households in Kutus region for farm/business input (eg. repairs, tools).
- b. Households in Kutus region for consumption
- c. Local (Kutus) traders
- d. Other (sp.).....

3. Raw Materials/ supplies

a.	b.	c.	d.	e.
What major raw materials/ supplies does your business purchase	How much do you usually spend in a month on	Where do you usually buy	How far do you usually travel to buy	Where is it produced
		location		
1.				
2.				
3. Other (sp.)				

Where () is bought/ produced

- a. within Kutus region
- b. outside Kutus region in this district
- c. outside this district in Kenya
- d. imported

4. Equipment/ Machinery

a.	b.	c.	d.	e.	f.	g.	h.
What major equipment/ machinery are owned/ leased by your enterprise	If owned, what is the value of it today	Where did you purchase it (location)	How far did you travel to buy	Does your business lease out this () to others Y/N	How much did you learn during the past 12 months in leasing out ()	If leased how much do you pay for it in a year	Where is it leased from?
1.							
2.							
3.							
4.							
5. other							

Where () is bought/ leased

- a. within Kutus region
- b. outside Kutus region in this district
- c. outside this district in Kenya
- d. imported

5. Commodities for Retail and Wholesale

a.	b.	c.	d.	e.
What commodities does your enterprise purchase	How much do you usually spend in a month on	Where do you buy	How far do you travel to buy	Total cost of those imported in the past 12 months
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Commodity Categories

- a. foodstuffs/ beverages
- b. clothes/ footwear/ jewelry
- c. stationery
- d. medicines/ chemicals
- e. hardwares
- f. detergents/ soap/ oils
- g. animal feed/ seeds/ seedlings
- h. other (sp.).

6. How many persons (including relatives) usually help in the above businesses ?

	a.	b.	c.	d.	e.
	(Number of paid workers)	(Number of unpaid workers (family, non-family))	(Usual wage of the paid workers (per month))	(How many paid workers are from Kutus region)	(How many of the workers are female)
i. Full-Time Workers					
ii. Part-Time Workers			(per day)		

7. During the past 12 months how much money did your businesses above spent on the following items.

Item	Y/N	How much per month	Where do you purchase ()	How far
1. Maintenance/repair	
2. Fuel (sp.)	
3. Transport	
4. Water	
5. Electricity	
6. Licence fees/rates	
7. Rent for space	

8. During the past 12 months did your enterprise have any problems obtaining any of the above items (fuel, raw materials, commodities for retail etc) ?
 Yes 1 No 2

9. What problems did you have in obtaining any of the above items ?
 a. none
 b. unavailable
 c. lack of transport
 d. lack of money
 e. other (sp.)....

9. Apart from the above farm based non-farm economic activity do you operate a town business ?
 Yes 1 No 2

10. What are the town businesses you operate ?
nature/name

place/location

distance

11. How much income do you usually earn from the above town businesses per month ? Ksh.

12. How much time do you spend on ?
 a. on your farming business
 b. on your non-farm farm-based businesses
 c. on your town business

SECTION 4: (TOWN) NON-FARM BUSINESSES (Incl. SMALL SCALE ENTERPRISES)

1. Have you or your household operated a non-farm business during the past 12 months? 1. Yes 2. No > 25

2. Personal profile of the owner/person in charge of the business: [For town business only].

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
Name	Age	Highest formal education grade completed	Mother-tongue (Ethnicity)	Is this full-time business?	Do you own this business?	If not, give relation with owner	Where does the owner live?	Occupation	Frequency of paid work	Are you paid here?	How do you launch your business?

Where the owner lives

- a. within Kutus region
- b. outside Kutus region in this district
- c. outside this district

Relation with the owner

- a. son/daughter
- b. wife/husband
- c. other (sp.)
- d. No relation

3. Do you keep records on your business operations (eg. entry book, sales ledger)? Yes 1 No 2

Business profile.

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.
Nature of business (e.g. retail, restaurant, repair, blacksmith, store, etc.)	Does this business occupy a fixed structure?	What are the main goods/services sold or produced (names)?	When was this business started?	Does it operate throughout the year or not (sp.)?	What is the type of business?	How much capital do you have to start this business?	What are the total sales of goods consumed by your HH in a month?	In general to whom do you sell goods of this business?		

Business Type.

- a. commerce : retail, wholesale
- b. industrial: manufacture -metal/electrical/chemical
- c. industrial: manufacture-agro- forestry/ processing
- d. services : restaurants, garages, transport, repairs, medical, entertainment

To whom your products are sold

- a. Households in Kutus region for farm/business input (eg. repairs, tools).
- b. Households in Kutus region for consumption
- c. Local (Kutus) traders
- d. Other (sp.).....

5. How many persons (including relatives) usually work in your business ?

	a.	b.	c.	d.	e.
	Number of paid workers	Number of unpaid workers (family, non-family)	Usual wage of the paid workers	How many paid workers are from Kutus region	How many of the workers are female
i. Full-Time Workers			(per month)		
ii. Part-Time Workers			(per day)		

6. Have you or any of your employees had formal training or attended a business management courses in the past 2 years ? 1. Yes 2. No

7. How many times did you receive advice on your business from a government agent during the past 12 months ?

8. Did you require any permit/license to start this enterprise ? 1. Yes 2. No > 12

9. Where did you go to obtain such permit/license
 1. Local office (in Kutus region)
 2. District office (District HQs, Provincial HQs)
 3. National office (Nairobi)

10. What was/is the cost of the permit/license ? Ksh. per

11. What problems do you have in obtaining business licenses/permits ? a. None
 b. Not available in local area c. Delays in application process d. Other (sp.)

12. During the past 12 months did your enterprise spent money on the following items ?

Item	Y/N	How much per month	Where do you purchase it	How far
1. Maintenance/repair	
2. Fuel (sp.)	
3. Animal feed	
4. Transport	
5. Water	
6. Electricity	
7. Licence fees/rates	
8. Rent for space	

13. Does your business own: a. building Y/N ... value.....
 b. land Y/N ... value.....

14. Raw Materials/Supplies

a.	b.	c.	d.	e.
What major raw materials/supplies does your business purchase	How much do you usually spend in a month on	Where do you usually buy	How far do you usually travel to buy	Where is it produced
11.				
12.				
13. Other (sp.)				

Where () is bought/produced

- a. within Kutus region
 b. outside Kutus region in this district
 c. outside this district in Kenya
 d. imported

15. Equipment/Machinery

a.	b.	c.	d.	e.	f.	g.	h.
What major equipment, machinery are owned/leased by your enterprise	If owned, what is the value of it today	Where did you purchase it (location)	How far did you travel to buy it	Does your business ever lease out to others Y/N	How much did you learn during the past 12 months in leasing out	If leased how much do you pay for it in a year	Where is it leased from?
11.							
12.							
13.							
14.							
15. other							

Where () is bought/leased

- a. within Kutus region
 b. outside Kutus region in this district
 c. outside this district in Kenya
 d. imported

16. Commodities for Retail and Wholesale

a.	b.	c.	d.	e.
What commodities does your enterprise purchase	How much do you usually spend in a month on	Where do you buy	How far do you travel to buy	Total cost of those imported in the past 12 months
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				

Commodity Categories

- a. foodstuffs/beverages
 b. clothes/footwear/jewelry
 c. stationery
 d. medicines/chemicals
 e. hardware
 f. detergents/soap/oils
 g. animal feed/seeds/seedlings
 h. other (sp.).

17. During the past 12 months did your enterprise have any problems obtaining any of the above items (fuel, raw materials, commodities for retail etc) ?
 Yes 1 No 2 >19

18. What problems did you have in obtaining any of the above items ?
 a. none
 b. unavailable
 c. lack of transport
 d. lack of money
 e. other (sp.)....

CREDIT

19. Has your enterprise obtained credit in stock or loan in the past ? Yes 1 No 2

20. Does your enterprise have any loans outstanding now ? Yes 1 No 2 >22

21.	a.	b.	c.	d.	e.	f.	g.	
To whom does your enterprise owe money ?	What year did you get the loan?	What was the original amount of loan?	What is the outstanding balance?	What is the interest rate (p.a)?	What is the period of the loan?	For what use was the credit obtained (sp.)...	To whom money is owed	
							a. bank	b. co-op
							c. relative	d. friends
							e. money lender	
							f. credit unions	
							g. informal savings/ credit group	
							h. other (sp.)..	
							For what was credit obtained	
							a. working capital	
							b. investment "	
							c. other (sp.)..	

22. During the past 12 months did your enterprise have difficulties obtaining credit from any institutions ? Yes 1 No 2 >25

23. From which institutions did you try but fail to obtain credit ?
 a. b. c.

24. Why were you unable to obtain credit ?
 a. Did not have required security (collateral)
 b. did not qualify (sp.).....
 c. bad credit record
 d. other (sp.).....

25. Do you engage in farm activity? Yes 1 No 2 > [E.I]

26. How much of the land farmed is (a) owned (b) rented (ha. or acres) ?

27. What are the main crops you grow in the above lands ?

location_of_land/size	owned_/rented	main_crops	size_grown/quantity
.....	1.....
.....	2.....
.....	3.....
.....	4.....

28. How much income do you usually earn from your farm business per year? Ksh.

29. Do you have any of your land rented out? Yes 1 No 2

30. How much land is rented out?

31. How much time per day (on the average) do you spend (a) on your farm (b) on your town business (c) on other business

[E.I] = End of Interview. Thank you.

SECTION 5: OTHER FINANCIAL INFORMATION FOR FARM AND TOWN HOUSEHOLDS

1. How many members of the household are employed earning wage income outside the household businesses? (include income earned from doing farm wage labor - e.g. by town residents)

Member	Occupation	Where working	Status	Where working
.....	a. within Kutus region (farm)
.....	b. within Kutus region (town)
.....	c. outside Kutus region in Kirinyaga
				d. Nairobi
				e. other (sp.).....

2. Are there members of this household who receive pension? Yes 1 No 2

3. What were their previous occupations and grade?

occupation	grade
.....
.....

4. We would like to know the extent to which you make use of credit (e.g. loans from banks, coops, money lenders, relatives, friends or other institutions) for non-production/business uses: Have you used any credit in the past 12 months? Yes 1 No 2 >6

5.	a.	b.	c.	d.	e.	f.	Source of credit/loan
Loans (credit)	What was the source of the credit/loan	For what purpose was the credit borrowed?	How much was borrowed?	What was the interest rate (p.a.)?	How much has been repaid?		a. bank b. co-op society c. relative d. money-lender e. friend f. Government (sp.)... g. other (sp.).....
Loan 1							Purpose of credit/loan a. purchase consumer items b. pay school/college fees c. pay medical cost d. other (sp.).....
Loan 2							
Loan 3							
Loan 4							
Loan 5							

6. In what forms do members of your household save their money?

a. in banks, post office, bonds, credit unions
b. informal savings (e.g. group savings societies)

SECTION 6: MARKET SURVEY ON : TRADERS/ HAWKERS/ CRAFTSMEN/ ARTISANS

1. Trader's/ artisan's personal profile.

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
Name	Age	Highest formal education grade completed	Mother-tongue (Ethnicity)	Is this business full time or part-time activity for you	Do you own this business	If not, give name of owner	Where does the business live	Occupation of owner	Previous occupation of owner	Are you paid for your work	How much per month

Business Profile.

2. Type of business (by main category)

- a. Manufacturing/ fabrication/ processing
- b. Distributive/ Commercial (incl. retail, wholesale.)
- c. Services (incl. transportation, repairs, restaurants)

If a. >3 b. >4 c. >5

3. Manufacture/ Processing/ Fabricating

a.	b.	c.	d.	e.	f.	g.	h.	i.
Nature of business (eg. blacksmith, carpentry, sawmill, crafts)	What items do you produce/ process here	To whom do you sell	What price do you sell	What raw materials do you purchase	How much do you buy this week	Where do you buy the input	How far do you travel to buy	Where is the input produced

Where input is bought/ produced

- a. within Kutus region
- b. outside Kutus region in this district
- c. elsewhere in Kenya
- d. imported

To whom do you sell

- a. households in Kutus area for farm/business input
- b. households in Kutus area for consumption
- c. other traders
- d. other (sp.).....

4. Does this business occupy a fixed structure ? Yes 1 No 2

5. Commerce : wholesale, retail

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Nature of business e.g. retail wholesale	What items do you sell ? (see categories)	What is the total value of this item you normally have	To whom do you sell []	Value of sales per month	Is the item produced by you (sp.)? Y/N	If bought for how much do you spend per month	Where do you buy it ?	How far do you usually travel to buy it	Where is the item produced
1.					11.				
2.					12.				
3.					13.				
4.					14.				
5.					15.				
6.					16.				
7.					17.				
8.									

Categories of goods

- foodstuffs/ beverages
- clothes/ clothing
- detergents/ soap/oils
- stationery
- medicines
- hardwares
- animal feed/ seeds/ seedlings
- other (sp.)..

[For categories of where / to whom sold/ bought -see above]

6. Services (incl. transport/ repairs)

a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
Nature of business e.g. transport restaurant shoeshine barber	What services do you sell ? (sp.)	What price do you normally charge	To whom do you sell []	Value of sales per month	Is the item produced by you (sp.)? Y/N	What inputs do you produce this service	Where do you buy it ?	How far do you usually travel to buy it	Where is the item produced
1.						11.			
2.						12.			
3.						13.			
4.						14.			
5.						15.			
6.						16.			
7.						17.			
8.									

[For categories of where / to whom sold/ bought -see above]

7. Do you keep records on your business transactions such as sales ledger, entry book ? Yes 1 No 2

8. How many workers do you employ in this business ?
on market days on non-market day
Pay per day

9. How many unpaid family members help with work on a market day non-market days

10. Do you own machinery or equipment in order to produce/ sell/ deliver your produce/ service ? Yes 1 No 2

12. When did you start selling in this market ?

11. If yes, what are they and how much do you buy each ?

Equipment	Value/cost	Where bought
1.
2.
3.

13. How often do you sell in this market ?
days in a week
what months

14. What are your total sales per week ? Ksh.

15. How far do you travel to come to this market ? km.

15. What means of transport do you use to transport your goods ?
Means of transport
a. lorry b. bus/"matatu"
c. cart d. foot
e. own vehicle

17. How much does it cost you on transport per trip ?

18. Do you pay any fees/charge to operate in this market ?
Yes 1 No 2 > 23

19. How much does permit and licence cost you ?
P L

19. How much ? Ksh.

21. How much capital did you use to start this enterprise ?

22. How did you obtain the capital ?
a. savings b. credit/loan
c. other (sp.).....

23. Do you require permit to transport your goods ? Yes 1 No 2 > 25

24. How much does the permit cost Ksh. per yr/mth//.....

APPENDIX C

ADAPTING THE STUDY METHODOLOGY

This research effort was experimental in that it was the first in Kenya to focus explicitly on rural-urban exchange and the first field research undertaken to serve rural-urban balance and the RTPC Programme. The work of the principal researchers was plagued with frustration because as the story of the economy of the Kutus study area unfolded during the course of work, new elements warranting deeper research than had been planned were continually presenting themselves. Time, personnel, and money resources were severely limited, and the energies of the researchers had limits as well. All the research and analysis that could have been done, and perhaps should have been done, could not be done. The researchers had to content themselves with noting considerations that should be taken into account for such research efforts in the future, and recording them in what follows to ensure at least that the lessons of the experiment would be known.

On the whole, the study methodology as described in Chapter I is appropriate and suitable for application to other RTPCs. However, some modifications in the research focus are in order, some measures to increase research efficiency should be taken, and some hard decisions concerning resources dedicated to RTPC research need to be addressed before engaging in additional efforts of this sort. These are summarized below.

A. Research Focus

Following is a list of recommended improvements in the focus of future RTPC research efforts. These recommendations are offered without regard to cost considerations.

1. Expand research on internal operations of the RTPC economy.

More detail is desirable on detailed categories of town businesses, on the forward and backward linkages of these businesses, especially to agriculture in the study area, on the growth patterns of these businesses, and on the characteristics of their principal markets. More detail is also needed on the operations of various institutions that play a role in the town economy, including local government, central government, parastatals, trade organizations, and training institutions. More detail is also needed regarding infrastructure and its effects on different categories of local business.

2. Expand research on rural-urban investment patterns.

SARSA's rural-urban exchange research methodology as applied to the Kutus area focuses primarily on current patterns of exchange, not longer-term patterns of surplus transfer. Many farmers in the study area have invested in town businesses, and many town households have invested in farms, though apparently not generally as a major source of current income. More research

into rural-urban investment patterns in the study area would yield improved insights into the longer term development implications of improved rural-urban exchange and generation of current income.

3. Expand research on recent patterns of change.

The research methodology applied to the Kutus area assesses needs and likely responses to change based largely upon current patterns of production and trade. More attention to patterns of change in response to altered conditions and incentives in the recent past would yield better insights into needs and likely responses to RTPC interventions.

4. Study the designated key commodity systems in greater depth.

In particular, more research should be conducted into agricultural production methods and the spatial variations within the 3 to 6 designated key commodity systems. These could significantly affect priorities among RTPC interventions, and also the responses to them.

5. Study linkages further afield.

More research should be conducted especially on forward linkages from agriculture to trade, processing, and final market centers outside the study area because exchange patterns external to the RTPC area can have a bearing on how exchange patterns within the study area will be affected by various intervention options. Similarly, more research should be undertaken on linkages between the RTPC and other towns, especially in connection with forward and backward linkages of enterprises that figure prominently in agricultural marketing and input supply or trade with rural households.

6. Study macropolicy issues in greater depth.

The effects of macropolicies loom large in local economies. Interventions that make sense under one set of macropolicies may make no sense if those policies are changed. Research needs to concentrate on how patterns of exchange in the local area are conditioned by the current macropolicy environment, the consequences of past macropolicy changes, and alternative intervention opportunities under current and altered policies. This would not only serve the RTPC, but would also serve policy reform deliberations.

7. Deemphasize the baseline aspects of research.

As a routine matter, it probably does not pay to devote resources to developing baseline data for future reference beyond the data necessary for analysis associated with intervention assessment. Generating broad baseline data consumes enormous resources and diverts attention and energies from concerns with the best package of RTPC investments.

B. Improving Research Efficiency

Following is a list of recommended measures to improve the cost-to-quality and quantity of output ratios of future RTPC research efforts. These recommendations are offered without regard to cost considerations.

1. Prepare a handbook of research procedures.

Procedures developed in the course of the Kutus area study and the wisdom of hindsight could both be put to good use to improve the cost-effectiveness of future RTPC research efforts. A handbook should be prepared as a starting point for future RTPC study teams. The handbook should contain recommended procedures, cautionary advice regarding pitfalls, and coordinated and pre-coded standard survey questionnaire modules that can be adapted to the unique needs of each study area. In addition to improving research efficiency, this would introduce consistency into RTPC research that would enable comparative analysis among RTPCs and would help ensure useful post-implementation research.

2. Define the study area more carefully.

The study area should not necessarily be thought of as a contiguous piece of geography. It should represent the principal economic "catchment" area of the RTPC, the potential catchment area, and aspects of other settlements outside the immediate vicinity to which the RTPC has significant socioeconomic links.

3. Train research teams to undertake RTPC studies.

One or a small number of teams should be trained to undertake all RTPC studies, so that experience and efficiency will cumulate.

4. Adapt the commodity system approach to realities in each case.

Not only must the key commodities be carefully selected, but the approach itself should be modified in accordance with the character of the study area. For example, the Kutus study area is a small one and the rural portion is ethnically homogeneous. No significant spatial or economic patterns of farm household consumption were discerned in association with individual commodity systems. In similar RTPC study areas, it would pay from the outset to deal with farm household consumption as a subject unto itself rather than in association with commodity systems.

C. Research Resources

Researchers always feel that financial resources available are inadequate to the task that needs to be done, and the Kutus area study provides no exception. In looking to future RTPC research efforts, however, there are some serious decisions that need to be made that have a significant bearing on financial resources and their use. Research costs money. Quality research costs a good deal of money. But substantial investments will be made in RTPCs, and guiding

those investments with quality research is the most cost-effective way of proceeding with the RTPC Programme.

1. Target the research and define its objectives very carefully.

Research such as was done in the Kutus area, improved as discussed above, could be very expensive indeed. It is essential that the target and objectives of RTPC research be formulated with great care so that only the minimum research necessary is carried out, but carried out with clear direction. Once the purposes and limits of the research are well defined, funding should be carefully measured to be appropriate to the task.

2. Formulate an RTPC research programme.

Future RTPC research should not be undertaken piecemeal. A long term research program should be formulated that includes preparatory work such as development of the handbook mentioned above, and identifies a sequence of RTPC studies coordinated with selection of RTPCs and implementation schedules for RTPC investments. The program should be institutionalized, and a permanent coordinator should be designated. The RTPC research program should be coordinated with, and perhaps associated with, the research program for the Rural-Urban Marketing Programme.